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Transport Bill Amendments

THE Transport Bill has emerged from the Report Stage in the House of Commons somewhat changed for the better as far as the main-line railways are concerned. At the end of the second of the three allotted days' debate, on Monday, an amendment to Section 15 was agreed to under the guillotine procedure without a division, which will accelerate formulation and application of the reorganisation scheme for the railways. This amendment frees the Minister from the obligation to publish, for representations to be made by virtually all and sundry, the scheme to be submitted to him by the British Transport Commission. He need now consult at his discretion only those whom he considers representative transport users; but he must still consult the National Coal Board as the biggest single transport user. Government intentions as to the future of the railways remain as undefined as they were before. The latest amendment however will curtail what would have been a lengthy process, and once the Bill is law the speed of reorganisation will depend largely on that of the Minister's decision on the scheme submitted; and proposals already submitted by the Commission should help the Minister to decide. Meanwhile the amendments to Section 19 agreed in Committee last December ensure for the railways immediately on passage of the measure, instead of waiting for acceptance of a charges scheme, an improved competitive position in the matter of freedom in charging and in

publication of charges. The clauses relating to charging also have been improved by the mainly drafting amendments agreed last Tuesday. A further amendment purports to protect the London travelling public against excessive fare increases; this seems however to be largely a political gesture. The importance of the Pickfords (Special Traffics) Division and of other of the Commission's road haulage activities has been recognised, as has the development since 1948 of road haulage generally. Last Monday the Minister of Transport, Mr. Alan Lennox-Boyd, despite his refusal to accept amendments to that effect in the Commons at that time, undertook to have introduced in the Lords in due course amendments to increase the number of vehicles to be retained by the Commission over and above railway cartage vehicles to five-fourths of the number owned or controlled by the railway companies on nationalisation, instead of six-fifths as originally provided in the Bill.

Objections to a B.T.C. Bill

THE objections by some Conservative M.P.s in the House of Commons to the British Transport Commission Bill recorded on another page evidently are directed mainly against the proposed fares increase in the London Area. The Bill is basically similar to other private bills already passed, which confer additional constructional and other such powers on the Commission. One motion for rejection is on the ground of the inefficiency of the B.T.C., the "body whose operations are conducted in such a way that its rolling stock is dirty . . . and train service unreliable." This is simply blowing off steam. More significant is the motion tabled by the group led by a Surrey member, Captain R. E. D. Ryder, which stipulates an inquiry into the working of London Transport. The latest application for an increase in London fares, the Passenger Charges Scheme 1953, has profoundly disquieted the public in and around London. Nevertheless, rejection of the Bill, even though a private bill, would embarrass the Government. It is likely therefore to be passed eventually, but not before more hard things are said about nationalised transport.

Reduced Fares to Scotland

BRITISH RAILWAYS have thrown down a challenge to the cheap motorcoach travel between London and Scotland. Beginning on April 10, a new excursion service, the "Starlight Special" will run on Friday nights in each direction between St. Pancras and Glasgow St. Enoch, and Marylebone and Edinburgh Waverley. The fare will be 70s. return—about 1d. a mile—which compares with the ordinary third class return fares of 117s. 4d. to Glasgow and 114s. 8d. to Edinburgh and is about 10s. more than the cheapest ordinary return fare by motorcoach. The travellers must return by the special trains on the Saturday night either eight or 15 days later. The journey to Edinburgh from London will take about 9½ hr. instead of 15½ hr. by road. Bookings will be made in advance, with the guarantee of a seat, and light refreshments will be supplied. As we pointed out editorially in our January 2 issue air and motorcoach travel within Britain have become increasingly attractive because of the speed combined with a reasonable fare offered by the first and the low fare offsetting the long journey time of the second; to this competition the Anglo-Scottish railway services are particularly vulnerable. The step is most commendable and provided that running is punctual and the rolling stock clean and comfortable the service should be deservedly popular and justify its extension to other routes.

Anglo-Scottish Train Speeds

THE maximum permissible speed on the main London-Glasgow West Coast route is to be restored this summer to 90 m.p.h. During the war it was down to 60 m.p.h. and it is now 80 m.p.h. In making this announcement while on a visit to Scotland this week, Mr. John Elliot, Chairman of the Railway Executive, promised considerable savings in times between London and Scotland as a result. British Railways were carrying

more traffic than ever before, continued Mr. Elliot, but there was a serious shortage of coaches and wagons, and unless more steel could be allocated for new construction they would build this year only 400 coaches instead of 2,000 of last year's programme. Between 5,000 and 6,000 coaches now running were over-age. Economies were saving £16,000,000 a year and the public was benefiting to that extent. Mr. Elliot said that a great deal would have to be spent in the future on electrification in Britain and the Clyde area should be allocated a proportion of this expenditure.

Improvements at Nantes

A n important project which will remove a great obstacle to road traffic, enhance the appearance of the town, and improve train operating, is being carried out at Nantes. The main line from Paris to Southern Brittany formerly passed through Nantes on the level with many road crossings, running for part of the way along the quays lining the Loire. This layout, adopted when the Paris-Orléans Railway was extended from Nantes to Saint Nazaire in 1853 to allow easy transhipment of goods from river to rail, became a hindrance with the growth of the town and of road traffic. Eventually it was decided to divert the whole section between the main station (Nantes-Orléans) and the suburban station of Chantenay to the west, some five kilometres, by using first an old bed of the river, and then constructing cuttings, covered ways and two tunnels. In 1936 the Paris-Orléans Railway began work, which was carried on by it and the S.N.C.F. until the war called a halt in 1942. Construction was resumed after the Liberation and is making good progress.

Wagon Turnround

THERE has been some misinterpretation in the Press of wagon turnround figures in the Economic Commission for Europe *Bulletin of Transport Statistics for 1951*. These show the United Kingdom figure as 10·4 days—the highest for any country shown. Next highest were the French National Railways, then the Italian State, with 7·5 days, then systems in the 4·5 day range, and last, Switzerland and Luxembourg with under three days—and their short distances. Inefficiency on British Railways cannot be deduced from this. It is not clear whether the basis of reckoning is the same in all cases; but even accepting the figures, allowance must be made for the combination of factors making for long turnround in Britain. A complex railway geography necessitates frequent shunting, despite steps to make up block trains wherever possible. Financial and material restrictions not applicable in other countries have hindered mechanisation of marshalling yards and automatic braking of wagons. The density of traffic in Britain in freight train-miles per day per mile of line is the highest in Europe. Finally, the long-standing indulgence of British railways in the matter of unloading is supplemented by many consignees' five-day week, though arrangements exist for more prompt clearance when necessary. It would be interesting, however, to know how the German Federal Railways with their dense traffic and complex network achieved a turnround time of 4·3 days.

Plastics in Carriage Decoration

COMFORT in travel may be as much a matter of mental relaxation as of bodily ease. For this reason increasing attention is being paid in many countries to decorative schemes for compartments, a field in which plastic materials have shown new possibilities in recent years. One reason for seeking a restful interior put forward recently in our French contemporary, *La Vie du Rail*, was the possible fatigue of continuously watching a fleeting landscape on a long high-speed run. The special value of plastics for improving internal appearance was seen to lie in the ease with which such surfaces can be kept clean, and their resistance to wear. It was suggested, however, that their decorative qualities do not show to the best advantage with normal lighting, which, if adequate in intensity, may make their

effect lacking in warmth and solid comfort. It might therefore be desirable to avoid harshness, but at the same time provide an acceptable level of illumination, by means of indirect lighting from fluorescent tubes. In any scheme of this kind the reflecting properties of plastic surfaces would be a useful ally of the lighting engineer, enabling the most effective use to be made of the relatively limited electric power available.

Mechanical Handling of Steel Scrap

SOME of the methods employed in the handling of steel turnings from rolling stock axles, tyres, wheel centres and especially swarf from automatics, can hardly claim to be economic. In view of the ever increasing needs of steel scrap in the steel industry, any method which will help in the ease of handling such material is worthy of consideration. A pick-up system, using a fork truck equipped with a revolving head attachment which removes the swarf from the machines and empties it into a central pit is in use at the General Electric Works, Erie, Pennsylvania, and was described recently in *Distribution Age*. The central pit is constructed with drains to permit the excess cutting lubricant to empty into a tank, from which it is periodically pumped and re-used. Initial handling of swarf from machines is the most difficult of the operation, and in the General Electric Works, this is shovelled from the machines into containers which are picked up by the fork truck and emptied into the central pit by means of the revolving attachment; the boxes are placed in the aisle between the various machines. An electro-magnet suspended from a bridge crane loads the scrap into railway wagons.

American Marshalling Yard Practice

A MAJOR activity of American railways today, in expediting the movement of freight, is the remodelling of existing freight yards, and the building of new yards, fully mechanised and equipped with every device for speeding-up the work. The new \$10,000,000 Ernest Norris Yard of the Southern Railway at Birmingham, Alabama, referred to in our November 28 issue, is a striking example. Into the 56-track receiving yard, which can hold 533 bogie wagons, the routes are set up by an automatic switching system; the speed of the wagons through the seven retarders, all controlled by a single operator, is measured by radar devices and indicated visibly in the control tower. On their way to the crest of the hump, wagons pass in succession over a dragging equipment detector, and a sunk inspection pit; they then move past an installation which oils all the journals automatically. Loudspeakers all over the yard make it possible to "page" individual employees, and for them to "talk back" through fixed microphones placed at 300-ft. intervals. Track occupancy in every siding is shown visibly in the control tower. Other new mechanised yards opened recently are the Kirk Yard of the Elgin, Joliet & Eastern at Gary, Indiana, with 58 tracks, on which \$4,400,000 has been spent; and the Allentown Yard of the Jersey Central Lines at Allentown, Pennsylvania, reconstructed at a cost of \$3,600,000.

The Rock Island "Rockets"

THE name "Rocket" is applied generally to the diesel-hauled streamline trains of the Chicago, Rock Island & Pacific Railroad. In connection with the recently celebrated centenary of this company, recorded in our November 21 issue, interesting figures have been published showing the economic success of these services. There are eight, from the "Rocky Mountain Rocket," running the 1,083 miles between Chicago and Denver, to the "Peoria Rocket" which makes four trips daily over the 161 miles between Chicago and Peoria; the "Golden State," operated jointly with the Southern Pacific, requires five complete train sets to maintain a daily service over the 2,324 miles between Chicago and Los Angeles in 44½ hr. each way. The average earnings of the "Golden State," which commands an extra fare, are \$5·08 a mile;

the "Corn Belt Rocket" (Chicago-Omaha) earns \$3.61 a mile. The "Rocky Mountain Rocket," inaugurated in 1939 against advice to the contrary—because of its longer journey and time compared with the two competing Chicago-Denver routes—began with eight coaches, and now requires from 14 to 16 daily. Rock Island passenger revenue, nearly \$30,000,000 annually in the early 1920s, and as low as \$6,000,000 in the depression year 1933, was back to \$20,465,350 in 1951—a 13 per cent increase over 1950—and is still rising.

The Tablet on the Eastern & Midlands

THE address given on February 6 at the annual general meeting of the Railway Club by Mr. Kenneth Brown, the President, on the Eastern & Midlands Railway, which became part of the Midland & Great Northern Joint Railway in 1893, is a reminder that, apart from some experiments on the Cockermouth Keswick & Penrith in 1879, it was on that line that the first regular use, in England, of Tyer's electric tablet system is thought to have been made. The line was almost all single, which greatly hampered efforts to work through services efficiently, as much time was wasted in exchanging tokens. In 1906 the M. & G.N. followed the Somerset & Dorset in applying Whitaker's automatic exchangers throughout. Speaking at a meeting of the Institution of Railway Signal Engineers on January 11, 1933, Mr. A. M. Creasey said that there were then still 106 miles of single line on the M. & G.N. with 42 delivering and receiving, 25 delivering and 25 receiving equipments. In 1932, out of some 350,000 exchanges there had been only 62 cases of dropped tablets, none of which was run over or lost, and the maintenance costs had proved to be very low compared with the benefits obtained in accelerating the services.

British Transport Commission Traffic Receipts

THE aggregate figures for 1952 give B.T.C. total traffic receipts for the year as some £640 million, against £601 million for 1951. The only activities not to show higher figures for 1952 over the preceding year were road haulage and shipping, both, however, with relatively slight declines. British Railways receipts at £392 million were well in advance of the 1951 total of £367 million; this was the case also with London Transport, of which last year's total receipts of £66 million were 10 per cent up on the figure for 1951, mainly because of fare increases. Ships' passenger receipts last year totalled £5.4 against £5.7 million for 1951, and there was a slight drop in merchandise, mail, and parcels receipts from railway shipping services. No details unfortunately are available which might throw light on the causes of this decline; no doubt air competition and the reduced foreign travel allowance helped, though for Period 13 of 1952, the four weeks to December 28, with its bad flying weather, higher passenger receipts from marine services might have been expected than £227,000, which compares poorly with the £268,000 for the corresponding period of 1951. Hotels Executive receipts last year totalled £16,275,000 against £16,070,000 for the previous year. There is no true comparison, because of acquisition and sale of refreshment room and hotel businesses; restaurant car takings for the year, however, at £2.9 million were slightly down on the 1951 figure, doubtless largely through the increase in meal prices, but for Period 13 at £200,000 they do not compare badly with £204,000 a year previously—including Christmas holiday traffic in both cases.

This year has not begun well for British Railways freight traffics, though the receipts for the four weeks of Period 1 generally show a continuation of trends already apparent. With freight charges some 15 per cent up on last year's, better results might have been expected from coal, minerals, and parcels traffics. Evidently coal traffic has settled down to the shorter hauls characteristic of this traffic before the war. The consider-

able decline in merchandise tonnage denoted by the slight drop in receipts is an accentuation of a tendency apparent last autumn; allowance, however, must be made for the New Year and the after effects of the Christmas holidays, which because of the incidence of Christmas Day might affect this year's more than last year's figures. The decline in Road Haulage receipts continued.

	Four weeks to January 25		Incr. or decr.
	1953	1952	
British Railways—	£000	£000	£000
Passengers ...	6,358	6,050	+ 308
Parcels, etc., by passenger train ...	2,613	2,467	+ 146
Merchandise & livestock	7,922	8,042	- 120
Minerals ...	3,590	3,283	+ 307
Coal & coke ...	8,362	7,955	+ 407
	28,845	27,797	+ 1,048
British Road Services ...	5,650	5,805	- 155
Road Passenger Transport, Provincial & Scottish—			
Buses, coaches & trolleybuses ...	3,221	2,905	+ 316
London Transport—			
Railways ...	1,400	1,229	+ 171
Buses & coaches ...	2,838	2,518	+ 320
Trolleybuses & Trams ...	669	665	+ 4
	4,907	4,412	+ 495
Inland Waterways—			
Tolls ...	78	74	+ 4
Freight charges, etc. ...	97	96	+ 1
	175	170	+ 5
Total ...	42,798	41,089	+ 1,709

The alterations in fares last year, both on British Railways and London Transport, as well as the incidence of the holidays, vitiate any comparison in passenger receipts between 1952 and 1953. It is not possible to make any deduction from the rise in British Railways passenger receipts, which may not by any means show any increase in the volume of traffic. The same considerations apply to London Transport. The increase over Period 1 of last year of only £500,000 in London Transport receipts, set against rising costs, helps to explain the anxiety of British Transport Commission to obtain more revenue from the London travelling public. Even then, this year's figures for Period 1 might be slightly inflated for purposes of comparison, by Christmas holiday traffic.

The increase over last year in the receipts of B.T.C. provincial and Scottish road passenger undertakings seems to show these to be in a healthy condition. It is not known, however, to what extent costs are catching up on receipts. On the other hand, unlike British Railways and London Transport, bus undertakings in the provinces seem able to raise their fares, which they do severally and piecemeal, with relatively little protest from the travelling public concerned, and without engendering sales resistance.

PERCENTAGE VARIATION 1953 COMPARED WITH 1952

	Four weeks to January 25	
British Railways—		
Passengers	+ 5.0
Parcels	+ 5.9
Merchandise & livestock	- 1.5
Minerals	+ 9.3
Coal & coke	+ 5.1
Total	+ 3.7
British Road Services	- 2.6
Road Passenger Transport	+ 10.8
London Transport—		
Railways	+ 13.9
Buses & coaches	+ 12.7
Trolleybuses & Trams	-
Total	+ 11.2
Inland Waterways	+ 2.9
Aggregate	+ 4.1

Wagon Distribution on U.S.A. Railways

THE United States are served by 132 Class 1 railways, which are managed independently but are welded together for many essential purposes through the common agency of the Association of American Railroads. The 1951 edition of the *Encyclopædia Britannica* regards reciprocal working relations between the separate railways as developed to such a stage that "so far as users of their service are concerned, they constitute in a real sense a unified and integrated system of transportation." A good example of voluntary co-operation under the A.A.R. ægis is the existence of a code of rules governing the interchange of rolling stock. Among them, the railways owned in September 1,759,240 wagons, with an average capacity of 53 tons, the largest owner being the Pennsylvania Railroad with some 197,000 wagons, or about 11 per cent of the total number. In practice the whole stock comprises a national pool, the country-wide distribution of the wagons being supervised by the Car Service Division of the A.A.R. Operating & Maintenance Department.

The annual report of the Car Service Division for 1952 says that the outstanding performance of the year was the handling of the second largest wheat crop in history, without any serious wagon shortage and to the satisfaction of the farmers and the grain trade. One plan laid by the Division in conjunction with the railways was the assembling of about 20,000 conditioned grain box wagons in the south-west before the winter wheat harvest started. Later the movement of bulk grain for storage was regulated to avoid terminal congestion. The Division also organised terminal committees of railway operating representatives to control the movement of wheat at Fort Worth, Kansas City, and Minneapolis.

At all times the Division acts as a clearing house for imposing embargoes at the request of individual railways or shipping companies. It acts, too, as agent of the railways in connection with service orders which the Interstate Commerce Commission issues under its emergency power with the object of improving the loading or turn-round time of wagons. Another important duty of the Division is to participate in the meetings and the work of the Shippers Advisory Boards. The advance estimates of wagon loadings made by these bodies are valuable indicators of transport trends. The boards also strive to improve wagon user through some 470 Efficiency Committees covering 980 traffic centres. The Division constantly urges the need for heavier loading of wagons. Its report points out that for wagon-load traffic the average tons per wagon have increased from 38 in 1941 to an all-time high of 42 tons in 1951. Had the 1951 traffic been loaded on the 1941 pattern, the railways would have needed 150,000 more wagons than they owned a year ago.

The A.A.R. is dexterous in preparing long-term statistics. The report before us appends 19 tables, giving details of the wagon stock and its operation over a period of 30 years in some cases. We see at a glance that average miles per wagon per day rose from 24.3 in 1931 to 40.6 in 1941 and to 43.8 in 1951. Freight trains moved wagons between terminals at a speed of 14.8 m.p.h. in 1931, at 16.5 m.p.h. in 1941, and at 17.0 m.p.h. in 1951. For the first six months of 1952, freight train speed increased to 17.6 m.p.h.—a good rate of progress as the time spent by train engines in shunting at stations is taken into account in calculating the speed. Another table shows how the use of diesels is extending. On January 1, 1948, the U.S.A. railways owned 34,800 steam locomotives and 4,240 diesels; on November 1, 1952, they owned 16,606 steam locomotives and 14,354 diesels. This revolution in motive power should give greater mobility to the wagon stock.

The Car Service Division chooses "net ton-miles per serviceable wagon per day" as a safe index of wagon user. For the year 1948 the figure was 1,020; for 1950 it fell to 972, but advanced to 1,028 in 1951. An equally good result cannot be expected for 1952, which has been a poor year for wagon loadings owing to a slight recession in trade and labour troubles in the steel and coal mining industries. During the 48 weeks to November 29 the number of wagons loaded was 35,312,000, a decrease of

2,487,000, or 6.5 per cent, from 1951. Another source of anxiety recently was the scrapping of old wagons in larger numbers than deliveries of new wagons. Low quarterly allotments of steel were to blame for this loss of wagon stock, and also for an increase in the number of wagons set aside for repairs to 94,840 on November 1, 1952, representing 5.1 per cent of the stock. At that date British Railways had a repairs percentage of 8.3 !

A reader of the Car Service Division report cannot fail to notice the candour with which the story of its work is unfolded. In the same straightforward way the Division circulates a monthly statement to inform railwaymen, traders and the Press about transport developments. During periods of stress it announces the average daily wagon shortage week by week. Some of its activities might be described as public relations work of a most useful kind.

Monopoly in Inland Transport

A LUCID and thought-provoking essay on the problem of competition between railway and road is that by Mr. A. B. B. Valentine, a Member of the London Transport Executive, in the current issue of the *British Transport Review*. A substantial case for a monopoly of inland transport in Britain lies, he states, in two historical facts: the present excessive investment in transport and the lack of relation between transport charges and transport costs.

Until 1914 there was a virtual railway monopoly, in that coastwise shipping drew off only a small proportion of the traffic from the railways; the canal system was largely railway-owned; and in passenger transport the urban tram and bus services competed with the railways only to a marginal extent. The growth in the past twenty years of mechanical road transport has meant that the amount of capital invested in rail and road transport together which cannot be fully employed is very large. Maximum user gives the cheapest costs and therefore the lowest charges. Apart from technical invention, the "big way" of reducing the cost of transport to the nation is "to thin out the total supply of transport facilities and adjust them more closely to demand"; the most important field for this is in long-distance goods traffic.

The fact that many transport charges, especially freight, are badly out of step with costs means that much traffic is attracted by lower charges to the service that costs more to provide. This is caused largely by the fact that in the early days of the railway monopoly charges were based on what the traffic would bear, with little regard for the transport cost of each class of traffic. Road haulage charges may tend to reflect the haulier's costs, but still may show very inaccurately the real cost to the community because of the arbitrary incidence of road transport taxation. To eliminate this wastage of national resources would involve transfers of traffic from road to rail and *vice versa* on a much larger scale than results from branch line closing.

The *prima facie* case for a monopoly of rail and road transport, bringing them into the same financial unit, Mr. Valentine states, lies in the above. The reform of charges necessitates comprehensive information on costs which only a single authority can have. Without a merger it is in nobody's commercial interest to encourage use of the means of transport on the basis of lowest real costs with due regard to convenience and quality of service. Some of those who once accepted this case as justifying the Transport Act, 1947, feel that so little has been achieved in five years that the attempt of the Act eventually to establish something of a monopoly, has failed.

The reply, he points out, is that the science of traffic costing is only in its infancy. The time needed, also, for consolidating the nationalised road haulage undertaking is more than five years. The answer to critics of the service provided by British Road Services is that apart from teething troubles, and from the cases where a better service has resulted, the mere fact of change must be unpopular for a time with some users. Such change is necessary to secure economies and eliminate waste of resources.

Although, he suggests, British Road Services are to be broken up under the Transport Bill into small units for sale, a tendency may result towards consolidation into a private monopoly, assuming that buyers are found and that re-nationalisation does not impend at the time of sale. The test of the monopoly theory still is to come, mainly through a new charges scheme effective over several decades.

The argument for competition is not only that under free competition the service with the lowest costs will succeed. It is also claimed that although there is waste in unco-ordinated transport, efficiency in the long run will disappear under monopoly, which will not be able to produce the necessary enterprise, high standards of service, or avoidance of waste. The British Transport Commission monopoly, however, is far from absolute in freight transport as regards short-distance haulage, "C" licence vehicles, coastal shipping, and so on; and less so perhaps in the transport of passengers. Even although this restricted monopoly may have the defects inherent in all monopolies, it must be shown that in freight transport, the competitive system will provide incentives to efficiency.

Equal terms of competition in the transport of goods are hard to achieve. One reason given by Mr. Valentine is the present unsatisfactory basis of railway charges, which does not sufficiently reflect costs in its classification, and might also perhaps involve relaxing the principle of uniformity over the entire system for like consignments. The second obstacle is the statutory obligations on the railways as regards acceptance of traffic and provision of services to their clients. While some of these obligations apply in much public road transport, the road haulage operator is free from them.

The vital question in fact is whether and how far the obligations can be reduced on the railways or effectively extended to road transport. It would be impracticable, it is argued, to give railways the freedom enjoyed by road hauliers, for nobody would be left to carry unremunerative but essential traffics. Nor would it be possible to put the hauliers under the same obligations as the railways, because of administrative difficulties. The obligation to comply with maximum charges seems to him a corollary of the primary obligation to carry, as that obligation would be nullified if unwelcome traffic could be driven away by quoting exorbitant rates. No good reason, however, can be found for retaining the obligation to publish all special rates and treat all users alike.

A straight return to competition, therefore, is untimely and will not serve its purpose without a major reform of railway charges. Besides this, Mr. Valentine urges closer co-operation between road and railway staff in technical matters such as containers. He also raises the question of organising transport in regions in which the management would be responsible for all rail and road transport in the area. Finally he stresses the importance of morale, which could be severely damaged by any drastic change in the direction in which, he states, the transport industry is evolving.

C.T.C. Installation in Germany

AN important step in German signalling practice was taken last year with the bringing into service of centralised traffic control on the 62-mile section between Nuremberg and Regensburg, which is worked electrically at 15,000 volts a.c., 16½ cycles. A description of the installation, by Herr Karl Kleinbauer, appears in our German contemporary *Signal und Draht*, November, 1952, issue.

The decision to adopt an installation of this type was prompted by several considerations. In the first place the signalboxes were among the oldest on this part of the Bundesbahn, many of the locking frames being over 50 years old, and all would soon have had to be renewed with modern equipment. It was held therefore to be economically justifiable to change to a new method of working and as the traffic was not particularly heavy the section was considered specially suited to making a trial of such an

installation. It is true that one form of remote control, which could be regarded as a C.T.C. system, using step by step switching apparatus, had been applied before in Germany on a mining railway, but the conditions there were hardly to be compared with those on a main line. In the meantime the development of relay interlocking equipment led naturally to the consideration of C.T.C. when the question of modernising the signalling between Nuremberg and Regensburg had to be settled. In this way new operating methods of special significance, when the principles long ruling in Germany are considered, could be introduced on an appreciable scale and serve as a guide to future practice in this matter.

It was decided also to use colour-light signals throughout, with the existing home and distant night aspects, as the conditions did not call for multiple-aspect indications. The signal spacing was determined largely by the positions of the stations and halts. Intermediate signals were not required, as a rule, although there are four automatic sections in the scheme as the necessary additional traffic capacity had been obtained by changing to electric traction and the many curves did not allow high speeds. Sufficient distance was allowed, however, between home signals carrying inner distant signals, a feature which is commonly seen in Germany, and starting signals to enable multiple-aspect working to be introduced later without difficulty.

From some points of view it would have been advantageous to install the traffic controller's panel at Neumarkt in the centre of the installation. A single power supply then would have sufficed and cable costs would have been reduced. On balance, however, it was thought better to give preference to the superior operating conditions obtained by placing the panel at Nuremberg, an important divisional junction station. To some extent also this was the result of a decision to make the controlled area about 25 per cent longer than contemplated when the scheme was first drawn up.

Some intermediate stations are arranged with loops to allow overtaking, and it was decided to equip them with local operating panels, except one where a fairly modern these stations vary somewhat with the local conditions. Some have their own panels, normally out of use, to give electrical frame was already in service. Arrangements at local control as required, the working ordinarily being directed from Nuremberg. At others the panels normally control the route setting under a release from the traffic controller, staff being regularly on duty. Still others have the trailing points in the main lines key locked under an over-riding control. At some halts the nearby signals can be controlled by the person in charge, when necessary. Magazine train describers indicating the timetable numbers of the trains as they approach and pass certain places complete these arrangements.

As local power supplies were available a through cable was not required and this decided the way in which the track circuits should be divided and fed. The longest is about 2,500 yd. but the block sections are at times as long as 3½ miles, divided into three track circuit sections. After a number of experiments it was decided to use a frequency of 100 for the track circuits, with double-element motor type relays, and double-rail track sections fitted with transformer type impedance bonds, except in stations where the track circuits are single-rail. Special precautions were taken to protect against damage should a traction trolley wire fall.

It will thus be seen that the installation is representative of the most modern practice and we have no doubt that it will prove to be the forerunner of others, not only in Germany, but in other parts of Europe where the influence of German ideas in signalling hitherto has been felt. The adoption of these methods is the more remarkable in that Germany was for long conservative in such matters and always accorded much authority to stationmasters in managing the traffic at each point, not taking kindly to the train dispatching idea of a strong central control and certainly not for the actual operation of signals and points. The change of outlook began to be noticeable about 20 years ago and but for the war progress would have been made sooner.

LETTERS TO THE EDITOR

(*The Editor is not responsible for opinions of correspondents*)

The Rise of the Diesel

February 3

SIR,—A note on page 120 of your January 30 issue told how the diesel had been adopted by four typical American railways as almost their sole form of motive power. A more general proof of the diesel's triumph is the fact that on December 1 the whole of the U.S.A. Class 1 railways had for the first time more diesel than steam locomotives available for traffic movement. On that date the railways owned 14,496 diesels, of which 144 were under repair (barely 1 per cent), leaving 14,352 available. The number of steam locomotives owned was 16,231, but 1,939 (nearly 12 per cent) were under repair, leaving 14,292 fit for work.

At December 1 the U.S.A. railways had 767 new diesels on order and only 17 new steam locomotives, though they scrapped 5,644 in the 12 months ended November 30. Soon they will own more diesel than steam locomotives. The diesels are so powerful and efficient that the total stock of diesel, steam, and electric locomotives fell from 38,980 at the end of 1948 to 31,400 on December 1—a saving of 7,580 machines (about 19 per cent).

Yours faithfully,
R. BELL

Frognal, N.W.3

A Commercial Revolution

February 7

SIR,—Will you please allow me a little of your space in which to reply to Mr. J. H. Brebner's letter, published in your February 6 issue, on my article "A Commercial Revolution."

If the two principles of "what the traffic will bear" and "cost of service" are not alternative to each other, it is extraordinary what a lot of time and thought were devoted by such economists as Acworth in defending the one, and Pigon the other.

I did not say the stage is set for a collision between the two principles: I said it appears to be set. I went on to say that all that is likely to happen for the time being is that cost will be used as the lower limit in rate quotation. This is certainly not revolutionary, nor is it opposed to the principle of "what the traffic will bear": indeed, as Acworth says, it has always been part and parcel of it, and he would have welcomed the new possibility of more exact costing than was thought to be possible in his day. This use of costing, however, is not what is normally meant by the "cost of service" principle, and does not prove that the two principles are complementary.

The fact that we are not yet likely to see the "cost of service" principle in action seemed to me to be worth pointing out, because it has had powerful advocates in the Press and the Transport Bill proposes to remove some of the statutory obstacles in the way of its application. It does not mean that the difficulties to which I referred could not be overcome, nor that it is undesirable that they should.

Yours faithfully,
YOUR CORRESPONDENT

French and American Locomotive Mileages

February 6

SIR,—There were many interesting points touched on in Monsieur Armand's address to the Institute of Transport, summarised in your editorial of January 16.

Monsieur Armand referred to the high mileage run by one of the new electric locomotives on the Paris-Dijon-Lyons route, namely 25,000 miles in August, 1952. Mention was made on another page of the same issue of the fact that CC 7101 (Co-Co type) covered 29,000 miles in August, 1952. As Paris-Lyons is only 318 route miles, this says as much for the locomotive design as for the excellence of the operating

staff's rostering of the units, but statistically one feels that a better measurement would be the average mileage of a class of locomotives, or electric tractors.

In the case of American diesel-electric locomotives, it is often supposed that good monthly averages for the various fleets are only possible with such long runs as Chicago-California/Denver, or even the Chicago-Twin Cities short 450-mile run; this, however, would not appear to be the whole explanation, because density of train service has also a bearing on the results, as it permits short layover time, as in France.

Without recourse to detailed figures, it would not be surprising to find that the entire fleet of Santa Fe passenger diesels were averaging over 24,000 miles per month under very strenuous conditions, while the Burlington with its shorter runs would be approaching 16,000 miles. The Lehigh Valley with a main line of only 400 miles and with only a few passenger runs is believed to be obtaining some 14,000 miles from its passenger units.

It should be remembered that, while French electric locomotives are pooled as to crews, with main line steam practice, except in the case of the "R" class locomotives, locomotives were allocated to one crew, which probably reduced maintenance costs, but equally limited mileage.

Yours faithfully,
C. E. R. SHERRINGTON

20, Queens Road, Belmont, Surrey

Regional Maps and Boundaries

January 6

SIR,—May I suggest that posters showing the lines of the Regions are not very helpful to the public, for these maps have no relation to the timetables or the train services operating.

The London Midland System map leaves, I think, much to be desired. The Midland main line from St. Pancras ends at Clay Cross, is obliterated by an inset, and reappears at Skipton. Will the layman realise that trains still operate through from St. Pancras to Carlisle via Sheffield, Leeds and Bradford? The important main line link from Derby to Bristol ends abruptly half an inch out of Birmingham, and a hundred and one branch lines fizzle out before they reach the big town they serve because it is geographically in another Region. Even the old companies were not as insular as this in their outlook. Conversely, there appears a London Midland Region main line from Aylesbury to Pilsley with several branches, but you will search the pages of the L.M.R. timetable in vain to find the train service. Thus is the G.C. Marylebone to Manchester line dismembered, and apparently will never appear *in toto* again as it is shared by three Regions.

Surely lines of another Region which are operated over could be shown in the same colour or with some other variation to show different ownership. But really Regional maps should have died with nationalisation and their place taken by geographically sectionalised maps.

One other point, the Railway Executive has shown much enthusiasm and praiseworthy commonsense in rearranging Regional anomalies, but no one apparently can take the bull by the horns where the London Transport Executive is concerned. There are Cinderella stations, which, owned by the Railway Executive, are worked entirely by London Transport, yet issue B.R. tickets, are manned by B.R. staff and signalled by B.R. signals, yet the progress of both Executives passes them by. Thus we see Gunnersbury Station of the Southern in Southern green with frequent London Transport and London Midland Region trains. The Western Region clings to Royal Oak and other western suburban stations operated by London Transport.

Yours faithfully,
IAN ALLAN

Craven House, Hampton Court

THE SCRAP HEAP

Platform Art Gallery

There is a whole series of British Railways posters, specially painted by well-known artists, to illustrate typical scenery in each of the English counties. I saw some three dozen of these cheek by jowl in Ascot Station, a complete art exhibition in themselves—and all for the price of a platform ticket.—*From an article by Anthony Armstrong in "Vickers Overseas News."*

Oh, Mr. Signalman!

If I was a train I should be most offended with British Railways. . . . I should be most offended of all if I was the 8.30 a.m. train from Cardiff to Newcastle-on-Tyne, which was sent nine miles on the wrong track because somebody thought it was a different train.

I can almost hear the wheels and the pistons hammering out an angry little tune as the train chugs along:—

Oh, Mr. Signalman

You've muddled up your roster.
You switched me on to Pontypool
When I should have gone to
Gloucester.

—*From "The Evening News."*

Men of Service

The Victorian Railways are now displaying at all stations on the Melbourne suburban lines and at important country stations a panel of seven striking colour posters. They depict a typical stationmaster, signalman, driver, guard, welder, and designing engineer, each with the heading "Men of Service" and—"Women of Service"—a woman porter. The posters are by Mr. H. Freedman, a commercial artist.



Poster depicting an engine driver, one of a series entitled "Men of Service" issued by the Victorian Railways

Accompanying the posters is a message to the public beginning: "These are among 29,000 men and women, who, within human limit, try to serve you faithfully in the railway tradition—a tradition founded many years ago on self-respect and the dignity and integrity of chosen work."

Leaps to Fame

The guard of a train reported the other day that a man had jumped out before the platform was reached and had landed in a tank of water.

This exploit calls to mind Bazaine's famous leap, some hundreds of yards outside the station of Metz. The impatient Marshal landed on a large heap of manure. The *chef de gare*, who had seen the accident, said with a grin: "C'est magnifique, mais ce n'est pas la gare," a phrase which justly became as famous as the leap.—"Beachcomber" in the "Daily Express."

Early Canadian Ticket Date Stamp

An interesting relic has turned up in Sackville, New Brunswick, in the shape of a ticket dater stamp in use on the Intercolonial Railway up to 1907. It bears a maker's nameplate which reads: "Edmonson's Railroad Ticket Dating Press, May 23rd, 1854. By Bailey, Buffalo, No. 355," and the last date in the machine is "Dec. 12, 07."

Edmonson was an English stationmaster who died 100 years ago last June. He invented the idea of consecutive serial numbers for tickets. Prior to his time agents had to write the passenger's name on each ticket sold, and his substitution of serial numbers for names revolutionised the process, being adopted later in the printing of bank cheques, certificates, and other forms of tickets.—*From the "Canadian National Magazine."*

Flood Story

On January 31 the 7.27 p.m. train from Hunstanton to King's Lynn left carrying a small number of passengers, including two very young children. The departure coincided with the tidal wave and the train had only gone about half-a-mile before it was brought to a stand by the flood water, which rapidly rose to a depth of about 5 ft.

When the train did not reach Heacham, members of the operating staff set out to reach the train, but after many attempts they were unsuccessful. By this time the engine fire was almost extinguished but the engine crew, using the floor boards of the cab, managed to raise sufficient steam to propel the train clear of the water and back to Hunstanton before the engine failed completely at 2.45 a.m.

The stationmaster at Hunstanton gave the passengers tea in his house and they left there by taxi for their destination at 3.45 a.m., appearing none the worse for their experience and expressing appreciation of the efforts made to release them.



"Just think, dear! We'll always have a living reminder of your first three weeks vacation!"

—*From "Federation News."*

Round the Station

Signs and Portents

The weather still keeps chilly and

The skies aren't very clear,
But lots of little things now mark
The turning of the year.

Maybe we haven't done with frost,

Maybe we'll still have snow,
But even fogs don't seem so bad
As, say, six weeks ago.

And, if we haven't finished yet

With hurricanes and gales,
Thank goodness we have seen the last
Of January Sales!

Day after day the sunshine gets

A little more on top;
Day after day new glories grace
The station flower shop.

And, if no Annual Meetings now

Lighten long Lenten days,
At least we can amuse ourselves
With planning holidays.

Even collectors thaw a bit

And look almost benign
If, now and then, one oversleeps
And cuts things rather fine.

Dehibernating station chiefs

Go on their blue-nosed rounds
And, every morning, saucy birds
Inspect my house and grounds.

Now, all these signs infallibly

Add up to just one thing:
They—like the graceless schoolboy's
tack—

Portend an early Spring!

A. B.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

NEW ZEALAND

Auckland Suburban Electrification

Preliminary arrangements are beginning immediately on the Auckland suburban electrification, a part of the £20,000,000 Auckland—Frankton Junction development programme. Construction is expected to begin before the end of this year; the electrification will cover 40 route-miles of railway and the Morningside deviation.

Morningside Deviation

The Morningside deviation involves the construction of a tunnel nearly two miles long under the city and a shorter one at the Morningside end of the line; also underground stations and two bridges over Beach Road.

CANADA

U.S. Interest in C.N.R. Methods

The Manager of Dining Car Service, Chicago Rock Island & Pacific Railroad, Mr. M. J. Reynolds, has been investigating the methods of the Canadian National Railways Sleeping & Dining Car Department, of which Mr. H. P.

Parr is General Manager. Mr. Reynolds said he was particularly interested in C.N.R. methods of servicing and maintaining its sleeping cars.

Record C.N.R. Freight Traffics

The C.N.R. loaded more carloads of revenue freight in its Western region during 1952 than in any previous year. With grain and petroleum products producing the greater part of the increased traffic, the total number of cars loaded was 689,939, 42,975 higher than the previous record of 1951.

UNITED STATES

Electric Locomotives for New Haven

The New York, New Haven & Hartford Railroad has taken delivery of 10 electric locomotives of a new design from the Locomotive & Car Equipment Department of the General Electric Company. They are of the Co-Co wheel arrangement, and each is 68 ft. in length and weighs 155 tons (of 2,240 lb.). Each of the new locomotives is housed in a streamlined casing, and provided with twin oil-fired steam boilers for train

heating. Current is picked up from overhead conductors at 11,000 volts a.c., and transformed to d.c. by 8 in. diameter rectifier valves on the locomotives.

Each unit is of 4,000 h.p., and has a maximum speed capacity of 90 m.p.h. The locomotives are to be used on the electrified section of the New York-Boston main line, between Grand Central Terminal, New York, and New Haven, where diesel-electric units take over for the remainder of the Shore Line route to Boston.

Presidential Inauguration Traffic

For the inauguration of General Eisenhower as President of the United States, the railways concerned handled traffic of unprecedented volume into and out of Washington. A total of 600 extra Pullman sleeping cars was run, together with a great number of additional coaches, in special trains, and all timetabled services into and out of the city had to be expanded in formation to meet the demand. For organised groups, 480 Pullman sleeping cars were parked in various freight yards round the city, and had light, water, heating and sanitary facilities laid on; these were used as hotels by the parties which had chartered them on the nights before and after the inauguration ceremony.

BRAZIL

Santos-Jundiahy Electrification

On the inaugural run of the Santos-Jundiahy Railway electric trains built by the English Electric Co. Ltd., the 65 miles from Sao Paulo to Campinas were covered in 82 min. with two two-minute stops at intermediate stations. The trains are three-car sets seating 108. Four 200-h.p. motors, nose suspension type, give speeds of 68 m.p.h., the safety speed limit.

Proposed Diesel Locomotive Works

In January last the Commission for Industrial Development received a proposal from an Austrian firm to build diesel-electric locomotives at Tres Rios, in the State of Rio. The initial annual output would be 40 broad-gauge (5 ft. 3 in.) and 15 standard-gauge (4 ft. 8½ in.) locomotives. Both output and range of production would be increased by stages.

Central Railway in 1952

In November, 1952, a contract was signed with the National Bank for Economic Development for a loan of 1,181 million cruzeiros (£23,620,000) to finance a four-year programme covering: improvements on main lines between Rio, Sao Paulo and Belo Horizonte; replacement of 400 miles of rails; re-ballasting of 600 miles; realignments; construction of repair shops and depots;



Track-laying machine at work on the 145-mile line of the Canadian National Railways being built from Sherridon to Lynn Lake, Manitoba

and purchase of 765 ore and 1,500 other steel wagons.

During 1952 the Central Railway acquired 120 new diesel-electric locomotives, which will enable it to eliminate steam traction throughout the remainder of its system. A 45-mile section was realigned between São José dos Campos and Manoel Feio, eliminating steep gradients and sharp curves and shortening the Rio-São Paulo journey by two hours. Electrification of the São Paulo suburban lines was completed and is about to be inaugurated.

FRANCE

Budd-type Railcar Ordered

The S.N.C.F. has placed an order for a prototype diesel mechanical railcar of the Budd type adapted to European standards, for use on heavy or medium density traffic lines. The railcar will have a tare weight of 38 tonnes and will be equipped with two six-cylinder diesel motors, each of 275 h.p. capacity; when loaded it will have a maximum speed on the level of 87 m.p.h. Seats will be provided for 79 third class and 16

second class passengers, and there will be a luggage compartment with a floor area of 97 sq. ft. The existing X-3400 type 600-h.p. railcar of the S.N.C.F. has seats for 64 third class and 12 second class passengers; it has 73 sq. ft. of luggage floor space, and a tare weight of 40·7 tonnes and its maximum speed is the same as for the Budd-type vehicle.

The changes which are being made to the R.D.C.I. design are dictated by European, and particularly French, operating needs, demonstrated in lengthy tests carried out by the makers, but they do not affect the basic features of the Budd design. It is hoped that the prototype will be ready to go into service in 1954.

DENMARK

New Train Ferry

The State Railways have ordered from Helsingør Skibsverft, of Elsinore, a new diesel ferryboat for the Gedser—Grossenbrode service, which may also be used on the Great Belt service between Korsør and Nyborg.

The new vessel will be the largest

owned by the Danish State Railways, with a length of 375 ft., breadth 58 ft., and speed 16 knots. Capacity will be 1,200 passengers on the Gedser—Grossenbrode and 1,500 on the Great Belt route, with a full load of railway and/or road vehicles.

Copenhagen Suburban Improvements

The growing number of passengers on the Copenhagen electrified suburban lines has necessitated improvements to several stations in the centre of the city. An escalator is to be installed at Østerport Station from platform to street level, and two escalators at Copenhagen Central, serving the two suburban platforms. It is intended also to open a new entrance to Vesterport Station, at the opposite end of the platform of the present entrance, and this also will have an escalator.

Automatic block signalling, allowing a 2 min. service, is being introduced. The Copenhagen—Glostrup section, on which electric traction is to be inaugurated next May, will be so equipped. Signalling on other suburban lines hitherto has allowed intervals of only 3½ min., and is to be modified to give a 2 min. service.

Publications Received

The Welder and Cutter. London, H.M.S.O. Price 1s.—A new illustrated booklet entitled "The Welder and Cutter" has been published in the "Choice of Careers" series issued by the Central Youth Employment Executive. Copies are obtainable from H.M. Stationery Office or through any bookseller. The booklet tells how welding, comparatively new as an occupation, today plays a large part in shipbuilding, boilermaking, motor and aircraft manufacture, structural work, and most other branches of engineering. Both electric arc welding and gas welding are covered, and there is a separate section on cutting.

Aus der Welt des Schienenstranges (The Railway World). By Ferdinand Wöckel. Kevelaer, Germany: Verlag Butzon & Bercker. 9½ in. by 6½ in. 303 pp. Illustrated. Price DM 14.80.—The story of German railways is brought up-to-date in this book by the inclusion of many interesting details of German railway practice and organisation during and since the war. The author, a leading official of the Federal Railways, has laid special emphasis on the social and economic background of the railways, with the avowed purpose of bringing a knowledge of railways to a wider public. In this he has succeeded, probably not so much because of the "popular" style of writing, but because of his broad-minded approach, and skilful arrangement of subject matter. The material is grouped in eight main chapters, covering the origin and development of railways; motive power; rolling stock; permanent way and buildings; operating; the part played by railways in the economic life of the

nation; the staffing and organisation of the German Federal Railways and, as a brief postscript, international co-operation in the railway world. Apart from this postscript, the story is confined largely to Germany, where the opening of the Nuremberg—Fürth railway in 1835 is regarded as being of greater historic importance than the opening of the Stockton & Darlington Railway or the Rainhill trials. Nevertheless the book contains much that is of general interest, both on railways in Germany and on practice in other countries.

Detection of Flaws in Rolling Stock Axles.—A booklet containing a translation from the German, dealing with the detection of flaws in railway rolling stock wheels and axles by the ultrasonic method, has been issued by Solus-Schall Limited. The publication deals with the tests carried out to determine the efficiency of the ultrasonic method as applied to solid and hollow axles, which included the testing of axles in which a number of fine saw cuts were made, the results being illustrated by photographs of the cathode ray trace.

Lighting Fittings.—A new series of folders issued by Courtney, Pope (Electrical) Limited includes a description of the company's lighting fittings designed for incorporation in the Frenger type of warm acoustic ceiling, which combines a radiant panel heating unit with an efficient sound-absorbing surface. Lighting can be incorporated either as part of a complete Frenger unit, or in the shape of separate fittings for attachment to sub-panels during installation or at any other time. All the folders in this series, which cover

industrial lighting, fluorescent fittings, and equipment for window and general display illumination purposes, are illustrated with numerous views of Courtney, Pope equipment in a wide variety of installations. The company offers a complete lighting service from specification to final testing.

Stainless Steels.—The latest issue of *Enchiridion*, published by Firth-Vickers Stainless Steels Limited, records that stainless steel sheet is now in production at the company's new Sheepcote Lane Rolling Mills, near Sheffield. Parts of this plant are shown in coloured illustrations accompanying a descriptive article. The booklet continues its review of stainless steel applications, among which the Metropolitan-Vickers gas turbine locomotive features. A less familiar illustration is an X-ray of the neck of an employee of the company who had fallen down stairs at his home, after which his fifth and sixth vertebrae were restored to and secured in their proper places by means of locking pins and screws of Staybrite steel.

Escorted Coach Tours Abroad.—The 1953 programme of Thos. Cook & Son Ltd of motorcoach tours on the Continent includes holidays ranging in cost from 25 guineas for seven days in Belgium and Northern France to 158 guineas for a thirty-one day Grand Tour embracing Belgium, Bavaria, the Tyrol, Venice, Rome, Capri, the French Riviera, and Paris. Tours priced at 69 guineas and upwards are restricted for currency reasons to overseas visitors. Some tours have an element of railway travel, though road transport usually is used, with some long stages.

Electrification Progress in Austria

Financial obstacles to extension of electric traction over heavily graded routes in districts well provided with water power

INAUGURATION of electric working on the Austrian Federal Railways between Amstetten and Vienna in December last completes electrification throughout from Buchs, the Austro-Swiss frontier station on the Paris-Basel-Zurich - Arlberg - Innsbruck - Salzburg - Vienna - Budapest - Bucharest route. Electric traction is now in force over the Austrian Federal Railways from Bregenz, on the Lake of Constance, to Vienna Westbahnhof, some 500 miles; and with the electrified sections of the Swiss and German Federal Railways, there is through electric working between Geneva and Vienna, *via* Zurich and Buchs (710 miles); and between Stuttgart and Vienna *via* Munich and Salzburg (440 miles).

Arlberg Route

The system adopted for the Austrian Federal Railways is single-phase a.c., 15,000 V. Conversion began in the west of the Republic of Austria because of the difficult operating conditions for steam traffic on the sections through the Alps west of Innsbruck, including the Arlberg section with the seven-mile Arlberg Tunnel. These sections had the highest consumption of coal and were the most remote from coalfields.

The work of electrification began

soon after the collapse of the Austro-Hungarian Empire and in July, 1923, electric working began on the Innsbruck-Telfs section, 17 miles.

There followed the Telfs-Bludenz section, 68 miles, the most difficult to operate, including the Arlberg Tunnel and rising to an altitude of 3,274 ft. at St. Anton-am-Arlberg, at the east end of the tunnel; the Bludenz-Feldkirch-Bregenz section, 37 miles; the Feldkirch-Buchs connecting line (which runs through the Principality of Liechtenstein), 12 miles; and the Bregenz-St. Margrethen link, nine miles, though this last was not electrified till after the end of the war of 1939-45.

From Innsbruck eastwards the electrification proceeded likewise by stages. The first was the Innsbruck-Salzburg section, 160 miles. This comprises two heavily graded sections, that between Wörgl, 38 miles east of Innsbruck, and St. Johann-in-Tirol, 28 miles; and another section between Hochfilzen, eleven miles east of St. Johann, and Saalfelden, 22 miles further east. Beyond Salzburg, the section of the main line to Vienna next to be electrified was the 43 miles to Attnang-Puchheim, the junction of the branch through the Salzkammergut lake district to Stainach-Irdning, a junction on a secondary main

line (not electrified) giving an alternative route between Innsbruck and Vienna.

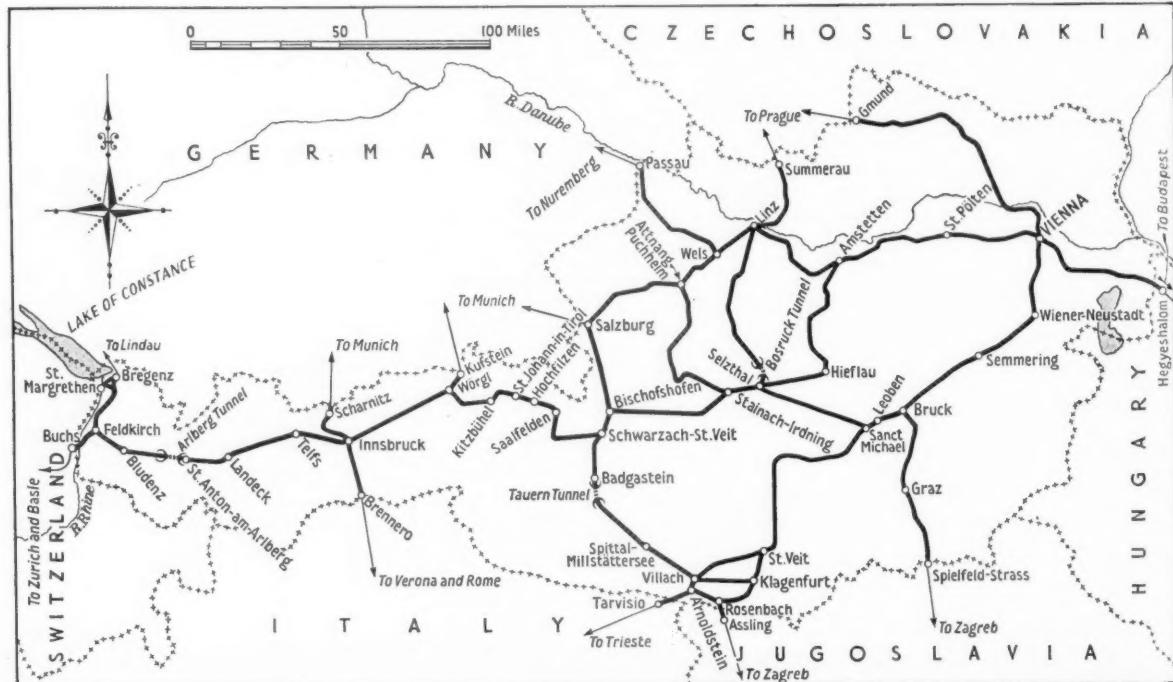
Tauern Line

An important line of which electrification was begun between the wars is the Tauern line, leading south from Schwarzach, 40 miles south of Salzburg on the Innsbruck-Salzburg-Vienna main line to the province of Carinthia. This important transalpine route runs through the spa of Badgastein and the five-mile Tauern Tunnel, and conveys much through passenger and freight traffic between Central Europe and Adriatic ports in Italy and Jugoslavia. Conversion of the 51 miles from Schwarzach through the tunnel to Spittal was completed by 1933.

Electrification of the Austrian Federal Railways was impeded by the economic troubles of the 1930s; and although work of converting all the sections mentioned above was virtually complete by 1930, little more had been done before the annexation of Austria by Germany in 1938.

After the Anschluss

Further conversion of railways in what was now a province (Ostmark) of Germany, was not envisaged by the



Main lines of the Austrian Federal Railways, showing Arlberg and Tauern routes and principal connections with neighbouring countries

German authorities in 1938, at least in the near future. Shortly afterwards the second world war began. After the defeat of Germany and reconstruction of Austria as an independent State in 1945, work on electrification was resumed.

The first section to be converted after the war was the main line between Attang-Puchheim and Linz, 35 miles and subsequently the section from Linz to Amstetten 40 miles. Conversion of the final 79 miles to Vienna Westbahnhof was completed on December 19, 1952, as recorded in our issue of January 2.

Extension southwards from Spittal of the Tauern line also was taken in hand soon after 1945. The first stage was the 23 miles from Spittal to Villach. The eleven-mile link between Villach and Arnoldstein, six miles from the Austro-Italian frontier at Tarvisio, was electrified in October, 1952.

The next section scheduled for electrification is the secondary line mentioned above from Bischofshofen, south

of Salzburg, *via* Stainach-Irdning to Amstetten. Work on the western end, eastwards from Bischofshofen, is to begin shortly.

Link with Bavarian Electrification

Authority also has been given to start on conversion of the Wels-Passau section, 51 miles. Wels is 15 miles west of Linz on the Vienna-Salzburg main-line; Passau is the Austro-German frontier station on the Nuremberg-Regensburg-Vienna route, and the completion of the South German electrification scheme outlined in our issue of December 26, 1952, will result in electric traction throughout between Frankfort and Vienna.

Electrification of the former Südbahn, between Vienna Südbahnhof and Villach, *en route* to the Adriatic, *via* the Semmering and Bruck-an-der-Mur and that of the Bruck-Graz branch have been postponed for financial reasons.

Although the full effect of electric

traction throughout between Vienna and the western frontier will produce major modifications in the summer time tables in force from May 17, the recent extension of electric traction on the Amstetten-Vienna section has facilitated minor alterations in the running of the main fast trains between Vienna and the West. Thus the "Arlberg-Orient Express" now arrives at Vienna West at 10.25 instead of at 10.35 p.m., and it has been possible to postpone the departure of almost all long-distance fast trains from Vienna West by 20-25 min.

Since 1945, 217 route-miles of line have been electrified in Austria at a cost of some 900 million Austrian schillings, about £32 million. The conversion of the 79-mile Amstetten-Vienna section alone will enable 100,000 tons of coal a year to be saved, and the total annual saving of coal from electric traction on Austrian main lines amounts to some 800,000 tons, costing over £14 million.

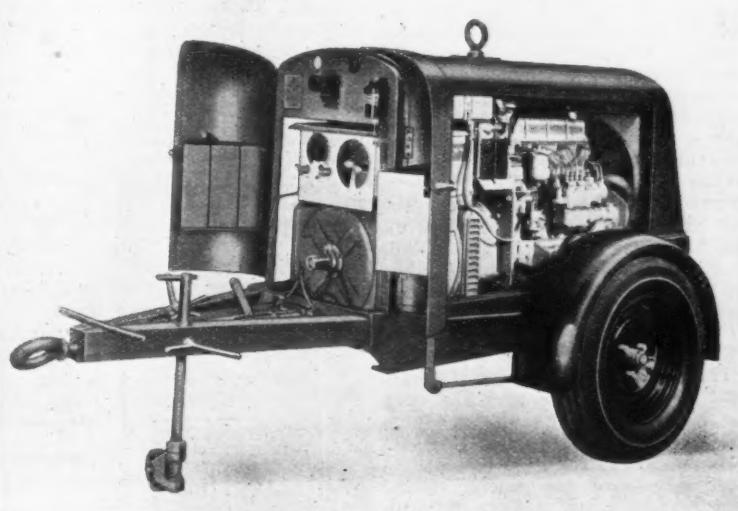
Morco Welding Sets

Portable diesel-powered units

A PORTABLE diesel-powered welding set designed as a fast towing unit, equipped with over-run brakes, pneumatic tyres and so on has recently been marketed by Moore's Plant Limited. Whilst a choice of engines and mountings will, it is understood, be available, the Fordson industrial diesel is being supplied as standard and is complete with electric starting. Alternative generators giving peak currents of 360 or 480 amps. both with arc voltage range of 25/30 and open circle voltage of 55/95 are available. These employ end plate type ball bearings.

A ventilated control box mounted on top of the generator embodies a main current selector switch and a fine current control. These being independent, dual control of the output is achieved. Connections from the generator windings are taken direct to the current selector switch on all the higher current ranges, no series resistances being employed. The lower current ranges are taken through rustless and unbreakable strip resistances which are fan-cooled.

Additionally, a separate wire wound resistance unit is provided to give different voltage settings as desired. The whole generator control panel is designed to conform to BSS.638. It is



The set with the engine exposed

claimed that the particularly steep drooping characteristic of the generator coupled with the rapid response gives exceptionally easy striking. The engine/generator coupling is by a rigid adaptor

ring of such proportions that the customary frame is dispensed with, thus affording considerable savings in weight. All controls are grouped at the rear of the set. The unit weighs 27 cwt.

RESULTS OF EAST COAST FLOODS.—A considerable mileage in the Eastern and Southern Regions still was flooded or too much damaged to permit operation of trains earlier this week as we went to press. In some cases single-line working had been resumed, and services were normal or nearly normal on other lines. Sections reopened to traffic included the Clacton and Harwich branches. The Beccles-Yarmouth

South Town and Downham-Kings Lynn sections remained closed; as a result the Royal train from Wolferton to Kings Cross last Monday was diverted *via* Peterborough. In the Southern Region, a restricted electric service was worked over the previously flooded section between Woolwich Arsenal and Erith. The extremities of the Allhallows and Sheerness branches still were closed. Work was pro-

ceeding on rehabilitating the spur to give through running between Selling and Canterbury West; this would enable Kent Coast trains to be worked from Faversham to Ramsgate *via* Canterbury West and Minster Junction, instead of by the previous temporary diversion route *via* Canterbury East, Kearsney, and Deal, necessitated by flooding of the Faversham-Whitstable-Birchington section.

Locomotive Rerailing in Suez Canal Zone

Construction of two gantries utilising light steel trestling for carrying four 20-ton Morris pulley blocks for lifting purposes

By Lt.-Colonel G. C. L. Alexander, O.B.E., T.D., R.E.

RERAILING of locomotives is sometimes necessary in circumstances setting as many problems as those attending the work at Weedon, L.M.R., described in *The Railway Gazette* of July 25 and August 1 last, but without comparable facilities to meet them.

A War Department train carrying military stores and equipment was derailed by terrorists in the Suez Canal Zone on December 15, 1951. The train was routed from Adabiya to Nefisha and was derailed at El Zeitiya, some 3 miles south-west of Suez. The train was being hauled by an ex L.M.S.R. class "8F" 2-8-0 heavy-freight locomotive, W.D. No. 70387, *Corporal W. J. Lendrum, V.C., R.E.*, now No. 503; reference to the naming ceremony of this locomotive was made in our April 6, 1951, issue.

As a result the engine with its tender were completely overturned, derailing and telescoping the first seven vehicles. Owing to the considerable disruption caused by the derailment to the track and formation, no accurate proof could be obtained to show the exact cause of the derailment, but it can be assumed that either fishplates and a length of rail had been removed, or that a portion of the track had been demolished by an explosion. The train is known to have been travelling at 25 m.p.h. and the locomotive came to rest on its side some 60 yd. from the assumed point of derailment. All the track over this length was torn up and the formation disturbed by the leading wagons.

Site Conditions

The alignment at the site of derailment is straight. The main-line track is single-line and built with flat bottom rails on wooden sleepers, ballasted with local soil. The track is on an embankment 3 ft. above the general ground level. A siding line runs parallel with the main line at 30 ft. centres and is also on an embankment. The engine, tender and some of the wagons came to rest in the valley formed between the two embankments.

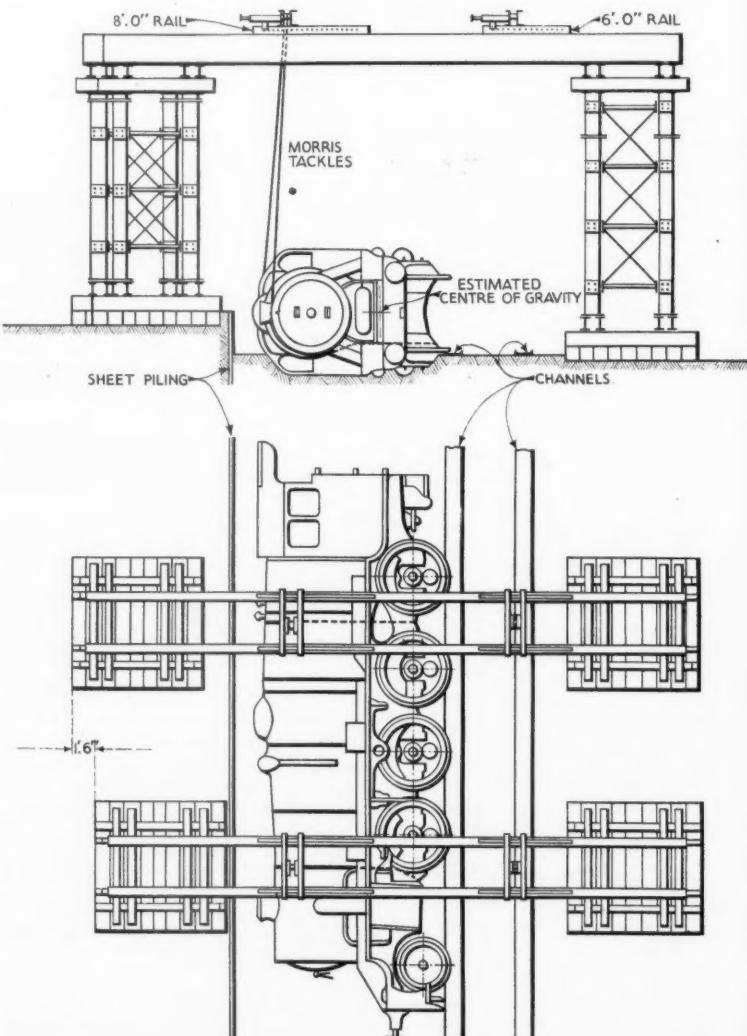
The surrounding ground is low lying, swampy and subject to flooding at spring tides and also after heavy rain, and consists of sandy clay soil, approximately 3 ft. thick, overlying a sand subsoil. Considerable rainfall occurred in the four weeks following the derailment. The open drainage channels on either side of the main line were damaged and blocked, and it was subsequently found that a close-jointed pipe conveying sullage beneath the tracks had been completely severed. Although attempts were made to divert the sullage, the contents were seeping into the ground beneath the wreckage.

The main drainage channels from the area fall directly into the sea and are also subject to tidal variations, and consistently became blocked with waste products from the nearby oil refinery and other local refuse. Despite the close attention paid to the drainage work constructed during the reclamation of the damaged stock, the standing water level throughout the area was never lowered more than 6 in. below general ground level.

In view of the pressing need to maintain rail communication between Adabiya and the remainder of the Canal Zone, it was essential that immediate

steps were taken to provide an alternative track, as the removal of the derailed stock was likely to take several weeks, owing to there being no breakdown cranes available, a feature which added considerably to the difficulties.

It was decided that the adjacent siding should be utilised and connected to the main-line south of the derailment. This involved the construction of an embankment of approximately 300 cu. yd.; the material to be obtained from the immediate vicinity. Two D7 bulldozers were obtained to assist in this construction, but due to the softness of the surrounding ground,



Elevation and plan diagrams showing the structure in position for the first lifting operation

these machines could not be used to the best advantage, although they were successfully used to construct a temporary access road from the main road to the derailment site.

To complete the construction of this embankment and the subsequent connecting of the track by manual labour, the services of 20 Mauritian troops and a company of the Royal Sussex Regt. (110 men) were obtained to assist the 15 Sappers who were available from 10 Railway Squadron. The link through was completed at noon on Monday, December 17, 1951, and the first train passed the site immediately the line reopened.

To ensure complete structure clearance the corner of the roof of a 40-ton box wagon had to be removed by flame-cutting. The hours worked are shown in the following table:—

	10 Railway Sqn.		Royal Sussex Regt.		Mauritians	
	Hours	Men	Hours	Men	Hours	Men
Saturday, December 15	17	15	—	—
Sunday, December 16	17	15	9	110
Monday, December 17	5	15	5½	20

Lifting the Engine

The method decided upon to lift the engine involved the construction of two gantries over the locomotive utilising light steel trellising. Using four, 20-ton Morris blocks and tackle the locomotive would be raised into an upright position. To lighten the load as much as possible, the motion on the upper side and the pony wheels were removed; the necessary stores were obtained by the Transportation Directorate. Delivery of the material commenced in the middle of February.

To support the south side piers of the two gantries, advantage was taken of the sheet piling already placed to support the diversion banking. It was considered necessary for the movement of normal rail traffic that a completely new diversion track should be made to allow the construction of these piers. The building of this further diversion involved the construction of another embankment of approximately 350 cu. yd., and infantry working parties were made available for this work.

It was planned to pivot the locomotive on the lower driving wheels, it being considered that no damage would occur to the wheels or the main frame. It was never established where the centre of gravity lay, but it was estimated from scaled drawings that the locomotive would reach the point of balance at about 60 deg. from the horizontal.

The Morris blocks which were available were two 20-ton and two 15-ton tested to 22½ tons. It was therefore decided, as the greater proportion of the weight of the locomotive (65 tons approximately) would be at the firebox end, to use the heavier blocks at the rear, and the lighter ones at the front. The two types of blocks were of dif-

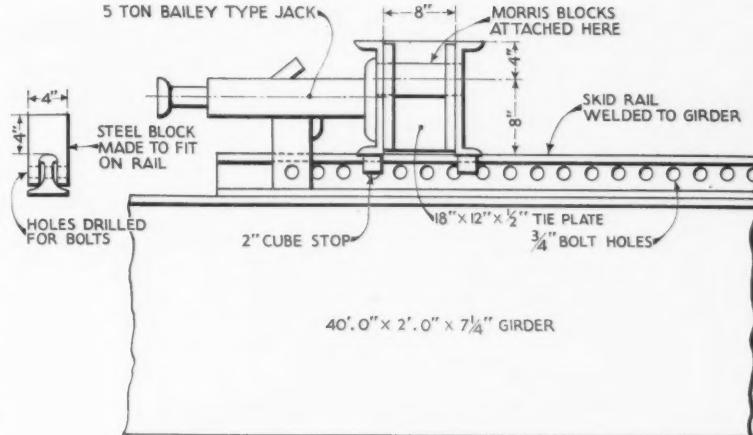


Diagram of one of the lifting blocks of 20-ton capacity

fered ratios, and no strain gauges were available in the Canal Zone to ensure equal distribution of the weight on each tackle, and, therefore, it was not possible to record the actual power required to lift the locomotive.

It was hoped that even distribution could be achieved by watching the power exerted by each of the two pulling teams, and then taking up the necessary turns on the easier tackle, thus re-distributing the load evenly. This, in fact, was quite successful. There was no means of estimating the drag caused by suction, but it was hoped that this would not exceed 10 tons.

It was planned to pack as lifting pro-

ceeded, but it was realised that after 40 deg. it would not be possible unless cribs and specially cut timber were used in bracing back to the sheet piling. It was decided that packing would be dispensed with after 40 deg. The plan envisaged the two far blocks taking over the weight at the point of balance and lowering the locomotive to its upright position.

In the derailment the tender had telescoped into the cab of the locomotive, and before the lifting operation could begin on the locomotive, it was essential that the tender should be withdrawn a minimum of 18 in. clear of the locomotive. This was achieved utilising steel wire rope and two sheave blocks and a 0-6-0 shunting engine. The tackle was made fast to a palm tree stump which was found to be capable of taking the load required.

Two gantries were constructed with headroom 20 ft. from the lower wheels of the locomotive to the underside of the gantry girders. Each gantry consisted



Structure and slings in position ready for the initial lifting operations



Slinging of the engine for the first lift; the tender is shown clear of the engine

of two towers of L trestling and two 24 in. \times 7½ in. RSJs, 40 ft. long, supporting two sets of Morris blocks and overhead attachments. These attachment sets were supported on flat bottom rails spot welded to the top flanges of the RSJs and the rails used as skids to enable the tackles to be traversed by means of jacking, thus keeping them in a vertical position as the locomotive was pivoted about the lower wheels.

Lifting Operation

Two pairs of 3½ in. dia. steel wire rope strops of measured length were connected to each of the two Morris blocks for the initial lift, and connected to the underside frame of the locomotive by means of hooks. Points of connection were (a) at a point on the frame between the two rear driving wheels, and (b) at a point on the frame in front of the forward driving wheel. The strops were passed under the locomotive and round the firebox in the case of (a), and round the boiler at the junction of the smoke box and boiler in the case of (b).

Two further pairs of 3½ in. dia. steel wire rope strops of measured length were connected to the other Morris blocks to take over the locomotive at the point of balance, which was estimated to be between 60 deg. - 65 deg. from the horizontal. Attachments of the hooks in this case were made at similar points on the frame as previously mentioned, but on the topside frame. A 25 ft. length of Larsen steel piling was placed longitudinally under the pivot wheels to reduce the amount of sinkage. This proved quite a success, considering that it was "floating" on water table level. When the locomotive was lifted upright the upper set of wheels were lowered into another 25 ft. length of steel sheet piling.

The lifting operation was completed in two days. On the first day the loco-

motive was raised through approximately 25 deg. and then left overnight resting on packing. On the following day the lift was completed; packing followed the lift up to 40 deg. From then on it was not possible to use packing, as the angle was too acute. The locomotive reached the point of balance at approximately 63 deg. This part of the task was completed on March 26, 1952.

Before the actual lifting of the locomotive, a temporary track on which to haul the locomotive from its position beneath the gantries had been constructed. When the locomotive was lifted upright and the wheels placed in the two lengths of steel sheet piling there was a considerable sinkage at the leading end. It was therefore necessary

to lift the entire locomotive using the four lifting tackles and 4 \times 50 ton hydraulic jacks and to place timbers longitudinally in the sheet piling to obtain a stable bed. Sleepers were then placed transversely across these timbers to carry F.B. rail and the whole was connected to the approach track which had already been constructed.

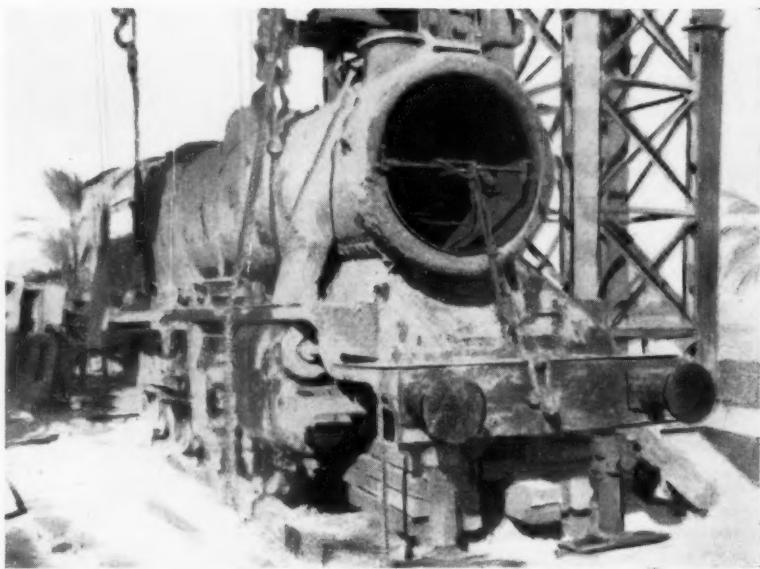
The damaged locomotive was inspected in this position by locomotive fitting staff and all moving parts well oiled before it was hauled out. This was done by using another 2-8-0 locomotive and a length of 3½ in. dia. steel wire rope. Locomotive No. 70387 was then taken in tow and removed to Railway Workshops at Suez for overhaul on March 31, 1952.

Rerailing of Tender

After the removal of the locomotive from the site the tender was raised by the following method. A sleeper platform was constructed alongside the tender and steel piling channels laid along the length in the position that the top side wheels would take when righted. The steel wire rope and tackle utilised previously were anchored to a group of small palm trees at right angles to the tender, and the running end attached to the cable of a bulldozer winch. Attachment was made from the tackle to the lifting eyes provided on the tender, and the 10-ton mobile crane was used to assist in the overturning motion.

When righted the tender was held in position by the crane and tackle with the wheels resting in the steel piling channel, while another timber crib was built below the other wheels. The tender was then lowered down into another set of channels in an upright position. Further lengths of channel were then placed to lead the tender on to the track that had previously been constructed beneath

(Continued on page 183)



The locomotive resting on jacks preparatory to laying the track beneath

Automatic Signals at French Level Crossings

Warnings controlled by passage of train

TRAIN-OPERATED danger signals are now in use on the French National Railways at some level crossings to replace road barriers and keepers.

The train on approaching the crossing automatically depresses a rail treadle, establishing an electric circuit which lights the red lamp on the road signal post close to the crossing, rings a bell on the post, and swings into position a warning board facing the road. Below the bell on the post is a St. Andrew's cross coloured yellow on a grey ground.

After passing the crossing, the train depresses a second treadle, cutting the circuit and thus extinguishing the red

light, silencing the bell, and causing the halves of the warning board to swing back through a right angle so as to be out of sight.

In dense fog, the driver of a motor vehicle, unable to travel at high speed, will see the intermittent red light on arriving within a few yards of the post. The letters of the danger warning also show a scintillating light by reflection.

Programme of Further Installations

Two hundred such road signalling posts are already in operation on S.N.C.F. lines and it is expected that 300 more will be installed this year. The apparatus was devised and the initial tests were conducted under the super-

vision of Monsieur Robert Levi, Directeur des Installations Fixes. The tests were made in co-operation with the Ministry of Public Works.



Two sections of board at right angles to road when crossing is free



Warning board facing road traffic during the passage of a train over the level crossing

Locomotive Rerailing in Suez Canal Zone

(Concluded from page 182)

the locomotive. The tender was hauled on to this track by the winch of the D7 bulldozer and sent to Railway Workshops on April 3, 1952.

Clearance of Site

The removal of all materials and stores used in the reclamation of the derailment was commenced immediately the tender had been removed. Sappers of 3 Field Squadron dismantled the gantries with the aid of the 10-ton mobile crane and Sappers of 10 Railway Squadron, assisted by a party of East

African Pioneers, loaded the materials into rail wagons for disposal. The site was completely cleared of all W.D. stores and the permanent Infantry Guard that had been mounted on the site since the derailment was stood down on Saturday, April 19, 1952. Reinstatement of the old alignment was left to the Egyptian State Railways Administration. Locomotive No. 70387 was back in service by May, 1952.

TECHNICAL PERIODICAL SECTION AT MILAN MUSEUM.—The Italian Technical & Scientific Press Association has established a Technical & Scientific Press Section in the new National Museum of Science &

Technics opened in Milan this month to commemorate the fifth centenary of the birth of Leonardo da Vinci. The section aims at assembling under one roof the greatest possible number of technical publications from all over the world for consultation by students and others.

ANGLO-SCOTTISH MOTORCOACH SERVICES.—The Ministry of Transport announced arrangements for the holding in Edinburgh on Tuesday and Wednesday of this week of a special appeal inquiry; the Railway Executive and others were to appeal against the grant of road service licences and backing to Northern Roadways Limited, to operate new express motorcoach services between Glasgow and London and also between Edinburgh and London.

British Railways Class "2" Standard Locomotive

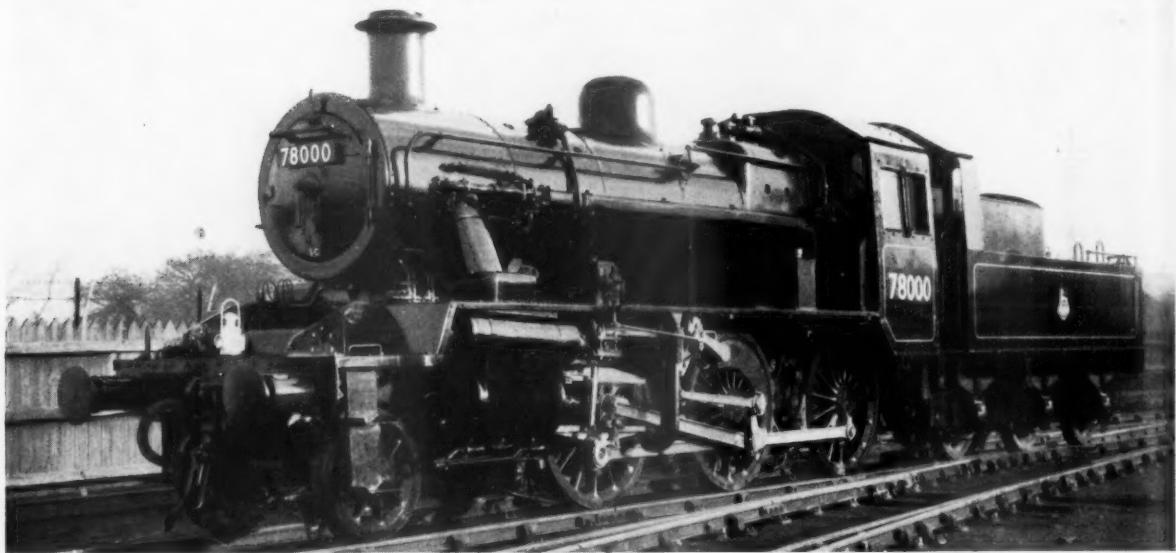
Designed for light, main-line and branch line mixed-traffic and passenger working

THE first of the 2-6-0 class "2" type mixed-traffic tender engines No. 78000, has been completed at the Darlington Works of the E. and N.E. Regions. There are ten locomotives to be built to this order and they are to work on the Western Region, British Railways, on similar duties to the "2251" and "2301" classes, and can replace various 0-6-0 classes of similar power.

The locomotive has been designed and built under the direction of Mr. R. A.

Riddles, Member for Mechanical & Electrical Engineering, Railway Executive. The parent office for the design is Derby, although certain parts were designed at Swindon, Brighton, and Doncaster. Although this is the smallest tender engine to be built in the range of 12 standard types for British Railways, it nevertheless incorporates, where suitable, the modern developments which have been found successful on the larger standard engines.

These improvements in design are principally to reduce the time required at the running sheds. Extensive use of grease lubrication with grouping of nipples into batteries has been introduced, a rocking grate has been fitted; also a self-emptying ashpan, and a self-cleaning smokebox. Apart from mixed-traffic work, the locomotives are particularly suitable for light, main-line and cross-country passenger working throughout Great Britain.



British Railways class "2" standard engine for branch-line operating

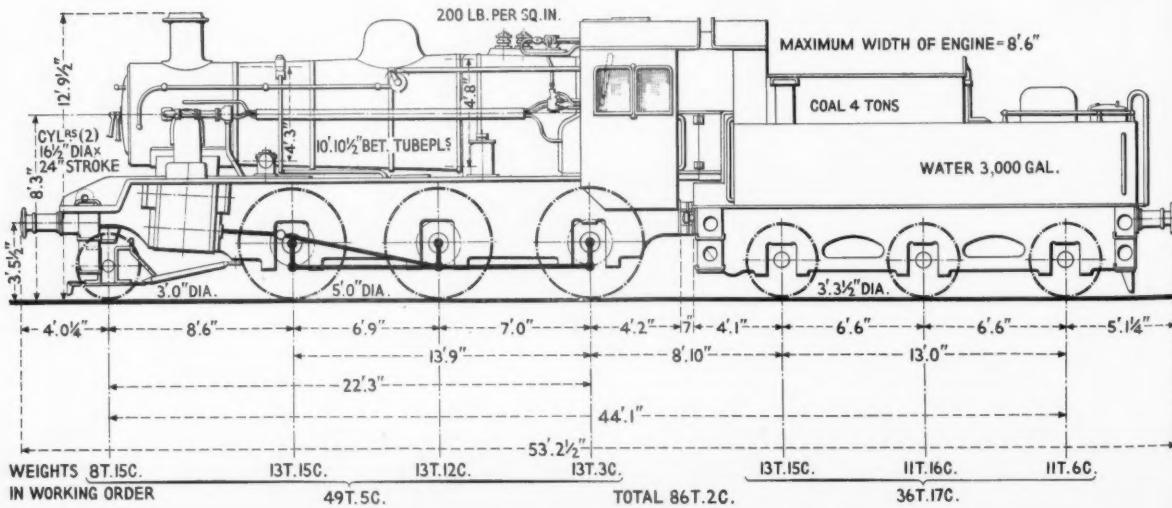


Diagram of principal weights and dimensions

The leading dimensions are as given in the following table:—

Cylinders (2), dia. and stroke	16½ in. by 24 in.
Wheels :	
Coupled, dia.	5 ft.
Pony truck, dia.	3 ft.
Tender, dia.	3 ft. 3½ in.
Wheelbase :	
Coupled	13 ft. 9 in.
Engine	22 ft. 3 in.
Engine and tender	44 ft. 1 in.
Heating surface :	
Tubes	924 sq. ft.
Firebox	101 sq. ft.
Total evaporative	1,025 sq. ft.
Superheater	134 sq. ft.
Grate area	17.5 sq. ft.
Boiler pressure	200 lb./sq. in.
Tractive effort	18,513 lb.
Adhesive factor	4.9
Weight of engine in working order	49 tons 5 cwt.
Weight of tender in working order	36 tons 17 cwt.

Boiler Design

The principal dimensions of the boiler are identical with the L.M.R. design of 2-6-0 class "2" locomotives. The barrel consists of two rings, made of carbon steel plate, the second being tapered equally at top and bottom, the outside diameter at the front end being 4 ft. 3 in. and at the firebox end 4 ft. 8 in. The front and back rings are ½ in. and 32 in. thick respectively. The smokebox tubeplate is of the drumhead type. There are 12 large tubes, 5½ in. outside dia., 7 s.w.g. thick, and 162 small tubes 1½ in. dia., 12 s.w.g. thick; the length between tubeplates is 10 ft. 10½ in. The Belpaire type firebox is 5 ft. 11 in. long outside, and 4 ft. 0½ in. wide, giving a grate area of 17.5 sq. ft. The steel wrapper plate is 32 in. thick, and the inner copper firebox wrapper is ½ in. thick. The throat and back plate are both vertical and are ½ in. and 32 in. thick respectively.

A relatively large dome is provided and contains a vertical grid-type regulator operated by an external pull-rod connected to a transverse shaft which enters the second barrel through a stuffing box. All firebox water space stays are

of Monel metal, fitted with steel nuts inside the firebox. Fibreglass insulation is used for boiler and firebox.

Two separate feeds are provided from two live-steam injectors situated below the cab on the right-hand side, the water entering the boiler through two clack valves placed at 30 deg. on each side of the vertical centre line of the first barrel, the water passing over deflecting trays. The boiler fittings are of standard type as used on other British Railways standard engines, which include a manifold, separate shut-off cocks and a manually operated blowdown valve on the front of the firebox.

Frames and Motion

The frames are of carbon steel 1 in. thick, and adequately stayed both horizontally and vertically in a similar manner to that obtaining with other British Railways standard tender engines. Other similar features include axlebox horns and liners, coupled axleboxes and bearings and method of lubrication, these being similar to standard locomotives other than those fitted with roller-bearings to coupled axles. The pony truck is also of standard design.

The two outside cylinders are 16½ in. bore by 24 in. stroke, the steam distribution being controlled by piston valves of 8 in. nominal diameter driven by Walschaerts gear, giving a valve travel of approximately 6 in. with 1½ in. steam lap and ¼ in. lead. The valves are lubricated by atomised oil delivered through atomisers from the mechanical lubricator and the pins of the valve gear are grease-lubricated, except the expansion link, radius rod die pins, and die paths, which are oil-lubricated. The bearing of the return crank big end is of the self-aligning ball bearing type. The cylinder drain cocks are steam operated and of standard design.

The crossheads are of the two-bar type; the top bar is mechanically lubricated, being the load-carrying bar when the engine is working forward. The connecting rod big-end and coupling rod bearings are lined with whittemetal and the oil is distributed over the bearing by a felt pad which is lubricated by splash feed from an oil box integral with the rod above the bearing.

Steam and vacuum brake equipment is identical with the other British Railways standard locomotives, while the cab is designed to suit the smaller of the British Railways loading gauges, and the layout of controls follows very closely the approved standard design.

The tender has a capacity of 3,000 gal. of water and 4 tons of coal and is fitted internally for water pick-up apparatus, and therefore can be equipped externally as required. Two combined external water feed valves and sieves are fitted on each side of the tender for the water feed pipe to each injector.

The tender brakeshift bearings and water pick-up pins and shafts, where fitted, are grease-lubricated. The front plate of the tender is specially designed to provide adequate protection to the footplate staff. Good visibility is provided when working tender first. The following is a list of the principal suppliers of equipment:—

Vacuum brake ejector, driver's	Gresham & Craven Limited
brake valve, gradable brake valve and associated details.	
Roller-bearing axleboxes on	British Timken Limited
tender	
Self-aligning ball bearings on	Skefko Ball Bearing Co. Ltd.
valve gear return cranks	
Reverser transmission shaft	Hardy Spicer & Co. Ltd.
Buffers	Geo. Turton, Platts & Co. Ltd.
Fibreglass boiler insulation	Gilmour Smith & Co. Ltd.
Mechanical lubricators for cylinder and axlebox lubrication	C. C. Wakefield & Co. Ltd.
Superheater elements	Superheater Co. Ltd.
Manually-operated blow-down valve	Everlasting Valve Co. Ltd.

NETHERLANDS RAILWAYS SERVICES DISRUPTED BY FLOODS.—Services on the Netherlands Railways are affected by the serious flooding which has taken place in Southern Holland. The Rotterdam-Antwerp line is cut below Dordrecht; the Moerdijk bridge is intact although its approaches are submerged. Traffic from Amsterdam, The Hague and Rotterdam for Antwerp and Brussels is routed via Utrecht, s'Hertogenbosch, Breda, and Roosendaal. The "Rhine Arrow" now begins its journey at Eindhoven and the "Rhinegold" runs from the Hook of Holland via Schiedam, Utrecht and Eindhoven.

intended to replace the clauses covering colour in the above specifications.

The standard is divided into three parts, dealing with standards for colours, glass filters and methods of measurement respectively. Part 1 relates to the colour of a red, yellow, green, blue or white signal, whether obtained from an unfiltered source such as a discharge lamp or from a filtered source such as an incandescent filament lamp with a coloured filter. It includes recommendations for the classes to be used for the signalling services to give substantially the same colours as in the specifications listed above.

Part 2 relates to the limits for certain red, yellow and green coloured glass filters. The colours of blue and "white" glass filters are not included in Part 2, but are governed by Part 1. Part 3 relates to methods of test for compliance with Parts 1 and 2, and includes an appendix specifying an approximate method for the inspection of colours and transmittances of signal glasses by means of calibrated glasses.

Copies of the standard may be obtained from the British Standards Institution, Sales Branch, 24, Victoria Street, London, S.W.1. Price 4s.

RAILCAR DETAILS IN ADVERTISEMENTS.—A new series of advertisements by A.C.V. Sales Limited, the first of which appears in our pages this week, presents sectional drawings and mechanical details of a type of A.E.C. railcar of which 20 have been delivered to the Great Northern Railway (Ireland), and a further 60 are being built for Coras Iompair Eireann. It is intended to make the whole series of 15 advertisements available in booklet form to engineers and others concerned with the operation of railcars. Information given includes

layout of power unit and transmission on the chassis, gear change mechanism, and control wiring, all diagrams being accompanied by explanatory text which emphasises novel features of the design.

BRITISH STANDARD FOR COLOURS OF LIGHT SIGNALS.—The British Standards Institution has published a revision of B.S. 1376, "Colours of Light Signals." This edition, which takes the place of the 1947 edition, is an attempt to reconcile the differences which exist in the definitions of colours for particular types of signalling equipment as are set out in the following specifications:—

- B.S. 505—Road traffic control (electric) light signals
- B.S. 563—Land aerodrome and airway lighting
- B.S. 623—Colours for signal glasses for railway purposes
- B.S. 942—Lighthouse beams and beams from cognate projection apparatus

The 1947 edition was regarded as provisional, and it has been reviewed in detail and revised in the light of the results of practical trials made on road traffic and railway signals. The present edition is

Main-Line Coaches for Chile

*Centre-corridor saloons
built in Germany*



Interior of one of the main-line coaches of the Chilean State Railways

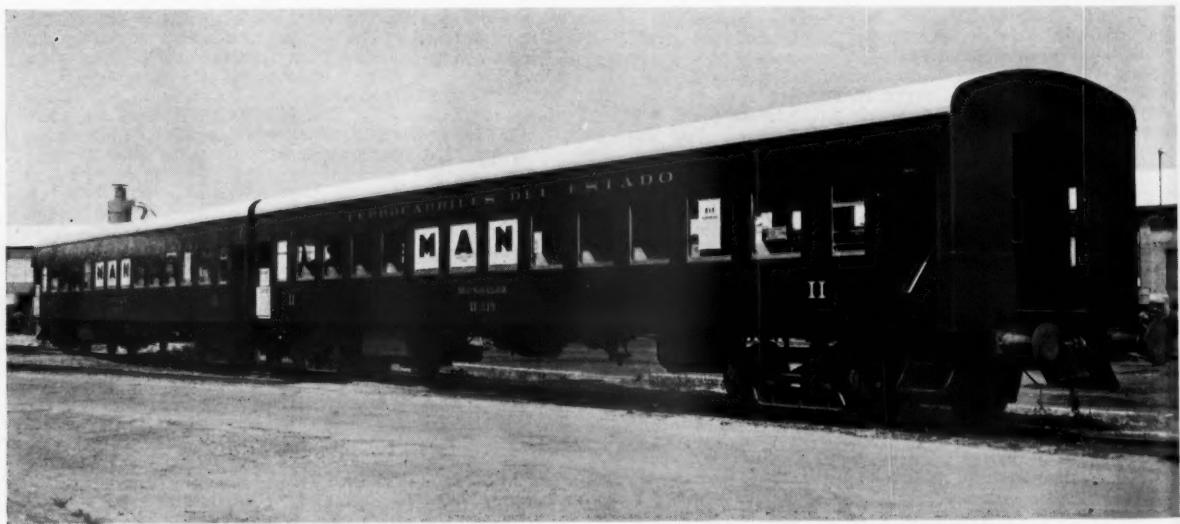
A BATCH of second class main-line coaches delivered recently to the Chilean State Railways from the Nürnberg works of M.A.N. are of most simple and straightforward design, and seat 100 passengers in a single large saloon with an aisle down the centre. Of 5 ft. 6 in. gauge, the coaches have a length over headstocks of 22 m. (72 ft. 3 in.) and a body width outside of 3 m. (9 ft. 10 in.), a width which allows over 20 in. per person on the twin seats and yet gives an aisle width of 30½ in. In the longitudinal direction the distance between pairs of seat backs (centre to centre) is 1·436 m. (56·5 in.) and the leg-room 410 mm (16·2 in.). Height of

the floor above rail level is 1·368 m. (54 in.) and overall height of the coach 4·08 m. (13 ft. 5 in.).

The bogies are of the bolster type with compensating beams between the axleboxes supported by helical springs, and with the bolster carried on four groups of full-elliptic springs at each side. The bogies have 946 mm. (37½ in.) wheels spread over a base of 2·438 m. (8 ft.) and are pitched at 15·8 m. (51 ft. 11 in.) centres. Two blocks on each wheel are applied by automatic air brakes, and there is a hand wheel at each end applying a screw brake to both bogies. Henricot automatic couplers are carried on the headstocks.

There are two open entrance vestibules at the ends with a hinged fall plate but no bellows connection, only side chains, between one coach and the next. At each end of the passenger saloon is a hinged steel door with a drop light; and just inside this is a lavatory with an inward-opening door. Body frame and underframe are of welded ring bearer construction, with steel side panels 2 mm. thick. The floor is of corrugated steel sheet covered with plywood but with a layer of shredded cork between. Seat frames are of lightweight steel tube, with seat and back covered in artificial leather over slight upholstery. A 24-volt Tonum electric lighting system with axle-driven generator was supplied by J. Stone & Co. (Deptford) Ltd.

BRITISH STANDARD FOR HACKSAW BLADES.—A standard for hacksaw blades (B.S. 1919: 1953) has been issued by the British Standards Institution. It represents the fruits of co-operation between the British Standards Institution and the British Hacksaw Makers' Association and has the further advantage for many sections of industry that its provisions for the ranges of sizes, teeth and dimensions are identical with those accepted by American and Canadian manufacturers through agreements between the respective trade organisations. Hacksaw blades are tools of such wide and everyday use that a standard such as this, which not only presents a simple series of types and sizes but safeguards the quality and cutting abilities of the blades, is expected to fulfil a useful function and have a wide appeal. Copies may be obtained from the British Standards Institution, Sales Branch, 24, Victoria Street, London, S.W.1, price 3s. 6d.



Two of the second class broad-gauge saloon cars at the M.A.N. Works before shipment

RAILWAY NEWS SECTION

PERSONAL

Dr. Jair Rego de Oliveira, Chief Accountant, Central Railway of Brazil, has been appointed General Manager of the same system.

Mr. S. H. Watson, General Traffic Manager, South Australian Railways, has retired. He has been succeeded by Mr. F. B. Harvey.

some time in an advisory capacity to the Board of Coras Iompair Eireann, Mr. Howden was also appointed as from June 1, 1950, General Manager of the Company; he was thus in the unique position of being at the same time General Manager of two separate and important transport undertakings. One outstanding work undertaken by Mr. Howden was the reconstruction of the Boyne Viaduct at Drogheda about 20 years ago, which was

Mr. A. M. Rizk, Chief Inspecting Engineer, Egyptian State Railways, who has been appointed General Manager, Egyptian State Railways, graduated from the College of Engineering, Giza, Cairo, in 1924, and entered the Mechanical Department of the Egyptian State Railways Telegraphs & Telephones in the same year. He came to England in 1925, and was trained on the London & North Eastern Railway under Sir Nigel Gresley at Don-



Mr. George B. Howden

Appointed Chairman,
Ulster Transport Authority



Mr. A. M. Rizk

Appointed General Manager,
Egyptian State Railways

Mr. George B. Howden, M.I.C.E., M.Inst.T., General Manager, Great Northern Railway (Ireland) and Coras Iompair Eireann, who has accepted the invitation of the Minister of Commerce in Northern Ireland to become Chairman of the Ulster Transport Authority, received his early training on the North British Railway, in Glasgow. After extensive experience on the constructional and maintenance work he was, towards the end of 1926, appointed District Engineer on the Border District of the Scottish Area, L.N.E.R., with Headquarters at Carlisle. In 1928 he was appointed Assistant Engineer, Scottish Area, in Edinburgh. In 1929, Mr. Howden took up the position of Chief Engineer, Great Northern Railway (Ireland), on the retirement of the late Mr. F. A. Campion. In 1933 he became responsible, in addition, for the Mechanical Engineer's Department, filling the dual position of Civil and Mechanical Engineer until his appointment as General Manager of the Company in 1939. After having acted for

carried out without interruption of traffic. During his term as Chief Engineer, responsible for both Civil and Mechanical Engineering Departments of the Great Northern Railway (Ireland), many notable improvements were effected in the provision of new passenger coaches, dining cars, buffet cars, and the remodelling of hotels, restaurants and refreshment rooms. The company's road passenger and freight services have been systematically developed in conjunction with its rail services and a fleet of 160 passenger and 130 motor-lorry vehicles is now operated in districts as far apart as the Counties of Dublin and Donegal. The development of diesel railcars and rail-buses on the Great Northern, which has made substantial progress, has been a feature of G.N.R.(I) services in which Mr. Howden has been very closely associated. At the present time about 35 per cent of the scheduled passenger services operated by the Company as well as a very considerable mileage of special train working, is carried out by railcars.

caster from 1925-1928, returning in 1934 for a short period on the Great Western Railway. On his return to Cairo in 1928 he resumed working for the Mechanical Department of the Egyptian State Railways Telegraphs & Telephones as Junior Foreman at the Boulac Workshops, and in course of time was promoted through all workshop posts until being appointed Chief Mechanical Engineer. In 1947 he took up his appointment in London as the Egyptian Government's Chief Inspecting Engineer, which post he held until November, 1952. He now returns to Cairo to become General Manager of the Egyptian State Railways Telegraphs & Telephones.

With reference to the note in our February 6 issue, Mr. C. J. H. Schoombie, appointed Assistant General Manager (Staff), was previously Chairman, South African Railways & Harbours Service Commission, in which position he has been succeeded by Mr. H. J. C. Bosman.



Mr. E. H. Alington

Chief Accountant, New Zealand Government Railways, 1950-1953



Mr. W. Archibald

Deputy Chief Engineer, Ulster Transport Authority, 1952-1953



Mr. D. C. J. Grover

Appointed District Estate Surveyor, St. Pancras, L.M.R.

Mr. E. H. Alington, Chief Accountant, New Zealand Government Railways, who, as announced in our January 9 issue, has retired after 40 years' service, joined the Railways Department in 1912 as a cadet in the District Engineer's Office at Christchurch. During World War I he served with the 1st N.Z.E.F. From 1921 he held various positions in the Chief Engineer's and Land Offices, Wellington. Mr. Alington transferred to the Chief Accountant's Office in 1927, and was associated with the re-organisation of the accounting system. He was closely identified with the research work connected with the Fay-Raven Commission of 1927 and the Royal Commission of 1930. He subsequently joined the staff of the Expenditure Audit Section, and in 1932, was appointed Divisional Accountant of the Expenditure Section of the Chief Accountant's Office. In 1938, Mr. Alington was selected, in com-

pany with Mr. A. H. Sage of the Stores Branch, to visit Australia to investigate the accounting systems in the New South Wales and Victorian Railways, more particularly in regard to the control of material in the Stores and Workshops, and the possibility of using machine methods for accounting purposes. The very able and comprehensive report rendered was subsequently of great assistance to the Department. In 1941, Mr. Alington was appointed Costing Officer, and in this capacity was closely concerned with the costing in the Railway Workshops, a matter which previously had been the subject of investigation by a Parliamentary Committee. Mr. Alington was for three years a member of the Cost Accounting Terminology Committee of the Standards Institute which issued in 1947 a Standard Code of Cost Accounting Terminology. This is now used in the University and has drawn

high commendation both in New Zealand and overseas. In 1943, he was appointed Expenditure Accountant, and in 1944 Assistant Chief Accountant. In August, 1950, on the retirement of Mr. F. H. McAuley, Mr. Alington succeeded to the position of Chief Accountant. One of the major works during Mr. Alington's tenure of the chief accounting office was the new Goods Accounting System which was inaugurated on the eve of Mr. Alington's retirement. Mr. Alington was the Chief Executive Officer of the Finance and Accounts Branch when the Royal Commission of 1952 submitted its reports.

Mr. W. Archibald, M.I.Mech.E., M.I.Mar.E., who, as recorded in our January 30 issue, is relinquishing his position as Deputy Chief Engineer, Ulster Transport Authority, was born in Belfast. In 1916 he was apprenticed to Harland &



Mr. S. S. Wheeler

Commercial Advertisement Officer, British Transport Commission, 1949-1953



The late Mr. A. E. Heskett

General Manager, Antofagasta (Chili & Bolivia Railway, 1920-1947)



Mr. H. Duncan Thoms

Appointed London Manager, Railway Traction Supplies Limited

Wolff Limited, studying at the same time at the Belfast College of Technology. In April, 1928, he joined the Sturtevant Engineering Co. Ltd., London, to acquire experience in heating, ventilating and similar work, and returned to the Belfast works of Harland & Wolff in October, 1929; he was appointed to the managerial staff, and served as an Assistant Manager in the iron and brass foundries and pattern shops, and later in the machine and erecting shops. After a year in the Estimating Department he became Repairs Manager until, in 1934, he was appointed Manager of the Locomotive & High Speed Diesel Engine Department. In 1936 he went to Australia, where he acted as Technical Representative for Harland & Wolff, his activities also extending to New Zealand. Mr. Archibald served in an advisory and consultative capacity to the New South Wales Government Railways in connection with Harlandic engines and hydraulic transmission for diesel trains. Returning to Northern Ireland in November, 1939, he was again attached to the Belfast works of Harland & Wolff, and was responsible for the production of various items of naval and military equipment, at the same time controlling the High Speed Diesel and Locomotive Departments. After the war his control was extended to the Auxiliary Diesel Engine Department. In September, 1948, he left Harland & Wolff to take up an appointment with the Northern Ireland Road Transport Board, and when the Ulster Transport Authority was constituted on October 1, 1948, was appointed Mechanical Engineer. In March, 1952, Mr. Archibald was appointed Deputy Chief Engineer. He is now returning to Australia with the intention of taking up consulting work.

Mr. D. C. J. Grover, who has been appointed District Estate Surveyor, St. Pancras, London Midland Region, British Railways, joined the Southern Railway in 1926. For three and a half years he was attached to a special branch of the General Manager's Office dealing with estate developers and negotiations in connection with the constructions of new stations, also factory and industrial development. Since 1946 Mr. Grover, a Fellow of the Royal Institution of Chartered Surveyors, has been responsible for the management of the Southern Region's London District estate.

Mr. S. S. Wheeler, who resigned as Commercial Advertisement Officer, British Transport Commission, at the beginning of this year, has held that position since January 1, 1949. He was previously Commercial Advertising Officer to the London Passenger Transport Board, which he joined in 1946. During the war, he held the rank of Group Captain in the R.A.F., and, on demobilisation, became Assistant Advertisement Manager of *The Evening Standard*. Mr. Wheeler has now joined the J. Arthur Rank Organisation in the capacity of Managing Director of Theatre Publicity Limited and Director of Langford & Co. Ltd. These are screen advertising subsidiary companies of the Rank Group.

We regret to record the death on February 3, at the age of 72, of Mr. A. E. Heskett, formerly General Manager, Chilean Section, Antofagasta (Chili) & Bolivia Railway. Mr. Heskett was born on December 23, 1880, and was educated at Durham School from 1894 to 1898. From 1899 to 1902 he was a pupil of Mr. W. Dawson, M.Inst.C.E., at Crewe, and was afterwards

employed in the Drawing Office of the Permanent Way Department there from 1902 to 1906. In November of the latter year Mr. Heskett joined the staff of the Antofagasta (Chili) & Bolivia Railway as an Assistant Engineer in the Permanent Way Department, being subsequently promoted to Resident Engineer, Chilean Section, occupying this position from 1915 to 1925. In December, 1920, he was appointed General Manager of the Bolivian Section, and took up this position in June of the following year. In May, 1929, he was transferred to the Chilean Section. In April, 1929, Mr. Heskett was decorated by President Siles of Bolivia with the Bolivian Order of "Comendador del Condor de los Andes," and in 1936 he was awarded the Order of Merit (Official Grade) for valuable services to the Republic. He was awarded the O.B.E. in 1947, and he retired on September 30 of that year.

Mr. H. Duncan Thoms, who has been appointed as London Manager of Rail Traction Supplies Limited, was born in 1908 and educated at Trinity College, Glenalmond, and in France and Switzerland. Before the war, he was a member of the London Stock Exchange. During the war he served as a Troop Commander and Battery Captain with field and medium regiments in the Middle East with the 8th Army at Gazala and El Alamein. Later he became a Counter Battery Staff Officer, and was attached to 50th Division, New Zealand Division, 1st South African Division, and 4th India Division. He was also with Corps and Army Headquarters. He was invalided to South Africa and later served in Italy. In November, 1944, he was invalided out of the Army, and entered the London office of the North British Locomotive Co. Ltd., which he left at the end of last year to take up his new appointment.

Mr. R. F. Wilson, District Engineer, Wolverhampton, Western Region, British Railways, has retired.

Mr. Alexander Ross has been appointed Chief Engineer and Mr. H. R. Sennstrom Executive Engineer, Locomotive Division, American Locomotive Company.

Mr. Herbert D. Euwer has been appointed Chief Engineer, Passenger Cars, American Car & Foundry Company. Mr. Euwer, who will continue to make his headquarters at A.C.F.'s St. Charles, Missouri, plant, succeeds Mr. Allen W. Clarke, who is retiring after 46 continuous years of service. The effective date is February 1, 1953.

We regret to record the death of Mr. Gopalaswami Ayyangar, formerly Minister for Transport, India. Mr. Ayyangar was 70.

Dr. Albert Dobmaier, Chief of the Railway Signalling & Telecommunications Section, German Ministry of Transport, has been appointed Chief of the Civil Engineering Department, German Federal Railways. Born at Würzburg in 1893, he graduated at Munich and entered railway service in 1921, being engaged in signalling and other engineering work in various capacities for some years, latterly in Bavaria, until going in 1932 to the Reichsbahn-Zentralamt in Berlin on telecommunications work, assisting also with electrification work at Leipzig and Stuttgart. In 1936 he became Divisional Signal Engineer, Berlin, and in 1938 was transferred to the Ministry of Transport to deal

with signalling matters. He was appointed a Chief Officer in the Ministry in 1942. Dr. Dobmaier is succeeded by Dr. Walter Schmitz, hitherto Divisional Signal Engineer of the Federal Railway at Cologne.

We regret to record the death on February 10, in South Africa, of Mr. A. P. Good, Deputy Chairman, Brush ABOE. Mr. Good was 46.

Cravens Railway Carriage & Wagon Co. Ltd. announces the appointment of Mr. Sydney White as Chief Designer.

Admiral Lord Mountevans has vacated his seat on the board of the Parsons Engineering Company.

Mr. R. Boole, A.M.I.Mech.E., has been appointed Technical Manager of Brynmawr Rubber Limited.

Mr. John C. Walker, Associate Editor of Thos. Cook & Son's staff magazine since 1947, has retired after 54 years with the company. He is 70.

Mr. David E. Bell, O.B.E., will be retiring from the General Managership of the Yorkshire Woollen District Transport Co. Ltd. on March 31, 1953. Mr. I. L. Gray, at present General Manager of Hebble Motor Services Ltd., has been appointed to succeed Mr. Bell and will take up his new duties on April 1, 1953.

Mr. James Hodge, Senior Consultant, Power Jets (Research & Development) Limited, is on a four-month visit to Columbia University, New York, to lecture on gas turbines.

We regret to record the death, on February 3, of Mr. F. C. Dyche-Teague, B.Sc., F.R.I.C., F.C.S., Managing Director and founder of Detel Products Limited, and pioneer of British chlorinated rubber.

Mr. M. W. Thring, M.A.(Cantab.), F.Inst.F., F.Inst.P., has been appointed an Assistant Director of Research of the British Iron & Steel Research Association. He will continue as Head of B.I.S.R.A.'s Physics Department.

Leyland Motors Limited announces the following appointments:—

Mr. Norman Tattersall as Chief Engineer.

Dr. Ing. A. Mueller as Chief Development & Research Engineer.

Mr. H. Willshaw, O.B.E., Chief Engineer, Dunlop Rubber Co. Ltd., has sailed for Brazil on the *Alcantara* to assist in the construction, near Campinas, north of São Paulo, of the new factory for Dunlop do Brasil and the installation of its plant.

The following notification appeared in the Supplement dated February 6 to *The London Gazette* of February 3 under the heading of Regular Army Reserve of Officers—Corps of Royal Engineers:—

Major J. C. Kubale, M.B.E., A.M.I.Mech.E., A.M.I.E.E. (171546) from A.E. Reserve of Officers, to be Major, October 1, 1952, retaining his present seniority.

We regret to record the death on February 2, at the age of 72, of Mr. W. C. Labrum, District Engineer at Horsham, British Insulated Callender's Construction Company Limited. Mr. Labrum, joined the former Callender's Cable & Construction Co. Ltd., in 1931.

Parliamentary Notes

Transport Bill Report Stage

*Railway reorganisation scheme accelerated:
B.T.C. to retain more road haulage vehicles*

The House of Commons on February 4 began consideration of the Transport Bill, as amended, on Report.

Mr. Arthur Holt (Bolton, W.—L.) moved a new clause to transfer all the property in the possession of the London Transport Executive under the scheme of delegation from the B.T.C. to a new London Passenger Transport Board. He said that the question of the organisation of London Transport never would be solved until the London Passenger Transport Executive was a separate statutory body. The public concern over the proposed fare increases in London showed that.

London Transport, he went on, was a huge municipal undertaking. When transport was nationalised, the national authority did not take over transport in cities such as Glasgow.

Although they might abolish the functional set-up of the London Transport Executive under the reorganisation scheme, Mr. Holt added, and although they might put back a General Manager to control the technicians, who seemed at the moment to be running wild in London, the final financial responsibility still would be that of the B.T.C.

The financial results of the L.T.E. had deteriorated since 1948. Experienced people agreed that no matter who ran London Transport, they could not make a loss on the buses; so that the London Transport Executive in 1951 had succeeded in doing something nobody else had ever done. There was no ground for any part of the country subsidising London transport, which, with a very high rate of turnover, and high rate of passenger miles, should be the cheapest and most efficient transport system in the world.

Mr. Ernest Davies (Enfield E.—Lab.) said the figures for 1951 showed that, whereas London was contributing some £6 million to the central charges, the railways outside London were making no contribution whatever and were not even paying their share of common working expenses. Because of the policy of the Government, London Transport and the Commission could not pay their way. That was clear from Government action in raising the fuel tax last year, in increasing the Bank Rate and therefore leaving the B.T.C. with an additional charge of £4 million in interest rate.

Mr. A. T. Lennox-Boyd (Minister of Transport) said the new clause was meant to give full financial authority for charges to the London Transport Board, as it would be, separate from the main body of the Commission. The Government believed that the system of co-ordinating fares in the London Area resulting from the London Passenger Charges Scheme, 1950, and the Charges Scheme, 1952, had brought some advantages. Before nationalisation the old L.P.T.B. and the main-line railways had different bases of fares, whereas services often were alternative and complementary.

If the proposed separation asked for were effected, he added, there would almost certainly be variations in fares in the London Area. Those who supported the new clause had not envisaged the consequences if the cushion of the Commission were wholly withdrawn from

the travelling public, who used not only London Transport services but those of British Railways. Much anxiety in the minds of the London travelling public was due to the recent application for fare changes. They had better see what emerged from the Tribunal.

The proposed new clause was negatived.

Sale of Road Haulage Assets

On Clause 1 (Disposal of Commission's existing road haulage undertaking), Mr. James Callaghan (Cardiff S.E.—Lab.) moved an amendment to delete the injunction that the Commission when it disposed of its existing road haulage undertakings should do so as quickly as possible. Other amendments as to the methods of disposal were discussed at the same time.

Mr. Callaghan said the attitude of the Opposition towards the fundamental principles of the Bill remained unaltered, but if the job had got to be done they must find the method which would secure the best price. The Opposition proposed, instead of selling off the lorries, higgledy-piggledy, so incurring the maximum loss in the sale and destroying all the goodwill of the undertaking, that the B.T.C. should form a number of companies and transfer to them the assets which stood in the name of British Road Services.

Share capital should be created and it should be the duty of the Commission to market those shares so as to secure the best price. If the assets were sold when they would command the best price on the market then the loss to the Commission would not be so heavy, and the levy could be reduced.

Mr. F. McLeary (Bradford E.—Lab.) said that if the industry was to be nationalised, organised labour within the industry asked for a chance to maintain the present conditions of service and some of the welfare services applied by the B.T.C. That could be achieved by accepting the amendment.

Transport Levy

Mr. Aubrey Jones (Birmingham Hall Green, C.) said it was difficult to sell large undertakings merely by physical assets. Unless the Commission could sell by shares, sale in large units would be practically impossible. The undertaking would be sold in small units, if sold at all.

The House had decided that it was right to sell the undertaking, and was prepared to see that the capital cost was kept to the minimum. This seemed to rest on the assumption that there must be a sizable capital loss with the levy to compensate for it. He did not share that assumption.

In the amendment he proposed, the levy clause could operate automatically if the capital loss was sizable, but should there be no sizable loss, then the Minister should retain the right to waive the operation of the levy clause, which should be discretionary.

Company Structure

Mr. Lennox-Boyd said the Government had no intention of disposing of road haulage assets with undue haste. The Commission would remain a formidable body with the duty of disposing of only a minor part of its undertaking. Under

the Iron & Steel Bill securities were being disposed of, but under this Bill the Commission was mainly disposing of physical assets.

The proposals in the Conservative amendment would impose a rigid pattern on the companies to be set up. He could give no undertaking to hold the levy in suspense. The Opposition proposal seemed to suggest a lengthy process during which changes might take place which would prejudice the Government scheme. It would leave the Commission with the sole responsibility for the tempo of the sale, and would make the purchasers minority shareholders in the companies for an indefinite time. This would not lead to good prices for the units.

His legal advisers told him, Mr. Lennox-Boyd continued, that, if the Commission and the disposals board concluded that in the disposal of a part of the assets some form of company structure was desirable, the present wording of the Bill would not allow it. Only physical assets could be disposed of.

The B.T.C. had urged that a limited application of the company principle would facilitate disposal and help in dealing with internal problems. He was impressed by that argument. Company structure would give confidence to the staff, who could identify themselves with a particular part of the undertaking which would be disposed of as a whole, and would give them a sense of security. It would also ease the changeover to private enterprise.

There was no question of setting up a rigid mosaic of companies covering the whole country, and then offering the companies in the hope that they would conform to what the purchasers wanted.

The Government was prepared to consider with the Commission the question of meeting its request, but they must see that what was devised was not a rigid pattern, but one based on the likely demand. This would be more easily gauged when the Bill had left the House. It would be left to the Disposals Board and the Commission how best to use the new power given them. The changes would necessitate many complicated amendments to the Bill, to be discussed when the Bill came back from the Lords.

Mr. Lennox-Boyd said he had put his name to an amendment to ensure that there should not be too great a concentration of vehicles in too few hands. The Government had been anxious throughout not to establish a private monopoly.

He could not recommend the House to accept any of the amendments. The Government would continue the talks now being held, and he hoped that in the Lords they would see the first signs of an agreed solution.

The amendment was negatived by 228 votes to 209—Government majority 19.

Road Haulage Disposal Board

On Clause 2 (Road Haulage Disposal Board), Mr. Ernest Davies moved an amendment to ensure that members of the Board should not have an interest in road haulage either now or immediately before appointment of the B.T.C.

Mr. Gurney Braithwaite (Parliamentary Secretary to the Ministry of Transport)

said the amendment would defeat the Government intention that one member should be appointed for his knowledge of the industry in present conditions.

The Government regretted that the trade unions were not prepared to serve on the board. Provision had been made, he went on, for the board to include men with special knowledge of the requirements of road hauliers. It had written into the Bill words which protected the public against a haulier abusing his position on the board.

The amendment was negatived by 227 votes to 199—Government majority 28.

Limitation on Sale

Viscount Hinchingbrooke (Dorset, S.C.) moved an amendment to put a duty on the Commission and the Disposals Board to set up units in such a way that they could not on sale pass into a group of private hands and be immediately amalgamated.

Mr. Gurney Braithwaite said the Minister had put his name to the amendment because it was a valuable means of ensuring proper conditions for fair competition.

The amendment was agreed to.

Railway-Owned Road Vehicles

On Clause 4 (Transfer of transport units to companies under control of B.T.C.), when the debate was resumed on February 10, Mr. Callaghan moved the first of a series of amendments to allow the Commission to keep more than six-fifths of the vehicles owned by the railway companies on January 1, 1948 (meaning all they had before, plus 20 per cent). He said this was to show the Minister there was a real case for him to give more vehicles into public hands, not as a monopoly, but to run in competition with private haulage vehicles. Pickfords division had 6,500-7,000 vehicles. Under the Bill they would keep only 4,678 vehicles. Why break up this unit? It was running satisfactorily.

Mr. Lennox-Boyd said the effect of the amendment would be to add to the six-fifths, eleven-fifths of the tonnage of other vehicles now in the Special Traffics Division which did not go over to the division of the railway and canal companies. This would strike at the root of the Bill's first three clauses.

Two amendments in the name of Lord Hinchingbrooke appeared to represent what the Government thought to be a fair and equitable solution.

The effect of the first amendment, he said, would be to increase by a further 5 per cent the tonnage of motor vehicles owned by the former railway companies—to raise the proportion from 20 per cent to 25 per cent. He would cause to be introduced in the Lords an amendment to give expression to that proposal. The total unladen weight of the vehicles to be retained by the Commission would thus rise from six-fifths to five-fourths.

In the second amendment, the spirit of which he accepted, the Commission would be limited only as to the tonnage made over to each of the three categories to an amount equivalent to the tonnage of the old railway companies plus 30 per cent. They would have, in those categories, a further freedom of 5 per cent. They could select any vehicles they liked in each of the categories, provided the total tonnage did not exceed the overall limit of five-fourths. That, broadly, would be the form of an amendment in the Lords.

The amendment was negatived by 231 votes to 194.

Mr. Herbert Morrison moved an amendment to permit the Commission to retain any part of the road haulage undertaking not sold by the end of 1953.

Sir Ralph Glyn (Abingdon—C.), supporting the amendment, said it would be in the interests of the men, whose feelings about security might be disturbed, thereby affecting the efficiency of the services, that the proceedings should not be unduly delayed. The amendment would also diminish the reasons for the levy. There was little doubt that the best of the vehicles would be bought within the period referred to.

Revised Estimate of Sales

Mr. Lennox-Boyd said he could not accept the amendment because it would frustrate one of the main purposes of the Bill. It would enable the Commission to retain, without the approval of the Disposals Board, all the vehicles not disposed of after the end of 1953. He would stick to the conclusion that the vehicles should be sold "as quickly as was reasonably practicable."

The amendment was negatived by 241 votes to 206.

Reorganisation of Railways

On Clause 14 (Reorganisation of the railways), Mr. Percy Morris (Swansea W.—Lab.) moved an amendment to omit the provisions relating to the abolition of the Railway Executive and the setting up of area organisations. He said that last year the railways did more business than in any year of peace-time before 1939. More than 70 per cent of the revenue of the B.T.C. was derived from British Railways.

Mr. Niall Macpherson (Dumfries—L. & C.) said that the amendment would preclude decentralisation unless the Government laid down the exact policy. It was better to leave the plan to be worked out by the Commission.

Mr. H. Hynd (Accrington—Lab.) said if the Railway Executive was removed there would have to be something else in its place.

B.T.C. Proposals

Mr. Gurney Braithwaite said that B.T.C. proposals would have involved far-reaching changes in the Commission's organisation, and the Minister could not have accepted them as they stood. The Government felt that a matter of such importance should be carried out by statute, which would give users and others the opportunity of expressing their views.

The Government, he added, believed it essential to carry out radical decentralisation of the railways. Where centralisation had proved beneficial it should not be disturbed.

Mr. Ernest Davies said that reconstruction to the extent necessary could be carried out within the framework of the Act.

Mr. David Renton (Huntingdon—Nat. Lib.—Con.) cited a letter from Sir Eustace Missenden, a former Chairman of the Railway Executive, to *The Times*, on the need for vigilance in the matter of decentralisation.

Mr. Jones said Sir Eustace Missenden favoured centralisation, as also Sir William Wood, a Member of the B.T.C.; and that Mr. John Elliot, present Chairman of the Railway Executive, approved of the present railway organisation. Before nationalisation, inter-railway jealousy had precluded universal adoption of G.W.R. type A.T.C. and other devices.

The amendment was negatived by 237 votes to 216.

Under the guillotine, an amendment was adopted to Clause 15 which freed the Minister from the obligation to publish the reorganisation scheme submitted to him by the Commission; he would have to "consult with such bodies representative of classes of persons likely to be specially affected by the scheme as he may think fit and with the National Coal Board."

Another amendment provided that no order amending or revoking a scheme was to be made by the Minister unless a draft of it had been approved by Parliament.

Road Passenger Services

On Clause 16 (Repeals and amendments relating to the Commission's function as to road passenger transport), Mr. Herbert Morrison moved the deletion of Sub-section 6, which enabled the Minister, in a case where the Commission owned shares in a company operating passenger transport, to direct the disposal of all or a sufficient number to prevent the Commission having control.

He said that if branch lines had to be closed down it was desirable that the Commission should be able to substitute bus services.

Mr. Lennox-Boyd said that he could not accept the amendment. The Commission's interest in passenger undertakings had far outstripped the holdings of the old companies.

The powers would only be used if the Government felt that to be necessary in the light of the Thesiger Committee report.

The amendment was negatived.

Charges Schemes

On Clause 19 (Exclusion of certain enactments), Mr. Lennox-Boyd moved an amendment and initiated a discussion on a series of amendments relating to charges schemes, giving effect to various undertakings he had given during Committee. These included proposals to preserve the protection given to coastal shipping. The B.T.C., he said, had given him notice that in the formulation of any future charges scheme for merchandise traffic it would be glad to consult with the representatives of coastal shipping as in the past.

London Fares

On Clause 22 (Special procedure for temporary authorisation of increased charges), Mr. Lennox-Boyd moved a series of amendments to protect the London travelling public. It was always theoretically possible, he said, that the Commission, which could only use the procedure to meet increases in costs, might put all their increases in costs not over the whole British railway system but on London fares alone. The Government was very anxious that this should never be done, nor be thought to be done.

The increase in revenue from the London passenger services now must not exceed the relevant increase in the Commission's costs as was properly apportionable to the provision of the services. This meant that any increase in London up to the maximum of 10 per cent could only result if in fact the increase in costs, whatever they might be in the London area, alone justified that increase, up to the maximum of 10 per cent.

He had also been impressed with the argument that the whole of the 10 per cent increase in revenue on freight could be put on any one commodity. As long

as the theoretical possibility was there it ought to be met, and another amendment would meet the case.

Mr. Ernest Davies said that there was no guarantee that for political purposes the Government would not intervene again over fares, as they did last year.

The amendments were agreed to.

Membership of B.T.C.

On Clause 24 (Amendment as to general duty and constitution of the Commission), Viscount Hinchingbrooke moved an amendment to increase the membership of the Commission from 10 to 14.

Mr. Gurney Braithwaite said that the most suitable number could not be determined until the railway reorganisation scheme had been approved.

The amendment was, by leave, withdrawn.

Mr. Herbert Morrison moved an amendment to secure that the Minister should not be inhibited from appointing more than one person who had been associated with the organisation of workers.

Mr. Lennox-Boyd said he had put his name to the amendment to ensure that it was mandatory on the Minister to appoint a trade unionist. The T.U.C. would be asked whom it would like on the Commission.

The amendment was agreed to.

Mr. Lennox-Boyd moved an amendment to ensure that from the passing of the Act it should be part of the functions of the Coastal Shipping Committee to take all possible steps to secure the establishment and maintenance of suitable arrangements for promoting consultation between operators of coastal shipping, rail, road, and I.W.T. freight services.

The amendment was agreed to.

A new schedule was read a second time and ordered to be added to the Bill.

Mr. Morrison moved an amendment to the schedule to raise the exemption level from the levy for vehicles from one ton to two tons unladen weight.

Mr. Lennox-Boyd, resisting the amendment, said that if it was carried an additional 185,000 vehicles would escape the levy which would have to be raised from 13s. 6d. to 16s. 6d.

The amendment was negatived by 244 votes to 236.

This concluded the report stage of the Bill.

Objections to B.T.C. Bill

The motion for the Second Reading of the British Transport Commission Bill, which provides for certain works (such as an extension to the landing stage at Tilbury) was objected to in the Commons on February 9 and again next day.

A group of Conservative Members headed by Colonel A. Gomme-Duncan (Perth & E. Perthshire) had tabled a motion "That this House declines to give a Second Reading to a Bill promoted by a body whose operations are conducted in such a way that its rolling stock is dirty, its maintenance inadequate and its train service unreliable."

A second amendment was tabled by a Conservative group headed by Captain R. E. D. Ryder (Merton & Morden). Its text was: "This House declines to give a Second Reading to a Bill to confer additional powers on the B.T.C. until the whole administration and operation of the London Transport system have been fully investigated by an impartial inquiry."

Under the Private Bill procedure a date may be fixed for a debate on the Second Reading of this Bill on February 16.

Transportation Club Dinner

Mr. W. H. De Monchy, a Director of Petroleum Co. Ltd., and the Holland-America Line, was the principal guest of members of The Transportation Club at a dinner held at the clubhouse, 44, Wilton Crescent, W.1, on Tuesday, February 10. Major-General Gilbert S. Sulumper, Chairman of the club, presided.

Mr. De Monchy, who had arrived in England that day from Holland, after speaking of the flood disaster which had overwhelmed large parts of his country, went on to talk of the transatlantic shipping services. He said that shipping, like other forms of transport, could succeed only if it could move large numbers of persons at low rates, instead of a small number at a high rate; there was room on the transatlantic services for ships of all sizes, but it should always be remembered that the majority of travellers were not rich and that most of them were people who travelled because they liked to do so and not because it was necessary for business purposes; the ship of the future should be a comfortable vessel and should carry passengers at the lowest economic rate of fares.

Mr. Ben Russell, a Director & Joint Deputy-General Manager of the Cunard Steamship Co. Ltd., expressed the appreciation of the main body of the guests for the hospitality of the club and said that everyone in the shipping industry had a warm regard for Mr. De Monchy and a high appreciation of the services by which his company provided on the North Atlantic routes.

Among those who attended the dinner were: Messrs. J. Douglas Black, V. Bridgen, H. E. Clark, B. W. C. Cooke, A. W. J. Cox, S. R. Devlin, A. H. Drakeford, G. W. E. Fortune, K. W. C. Grand, D. H. Handover, H. E. Houghton, Shirley H. James, John Matthews, P. D. Morris, R. A. Raulin, B. H. Russell, R. A. F. Smith, G. Spackman, C. M. Squarey, J. C. Stanley, G. Sutton, James B. Thom, C. C. H. Wade, G. M. Warren, W. Cyril Williams, H. Wilmot, and Tarleton Winchester.

Siding Floodlights at Nantgarw

The new National Coal Board development scheme at Nantgarw, South Wales, includes a coke-oven and by-product plant



Floodlighting of sidings serving coke-oven plant at Nantgarw, South Wales

where 11,000 tons of coal have to be handled a week, and when this has passed through the plant 8,500 tons of coke are produced. In any such scheme, involving the processing of huge quantities of raw material throughout 24 hr. every day, efficient means of handling the material are essential. At Nantgarw extensive railway sidings have had to be built.

For night operation of the sidings it was decided that Metrovick long-range floodlight projectors provided the most satisfactory method of lighting. Seventeen columns are used in the installation to carry a total of forty Metrovick vertical-burning floodlights of special design mounted at 50 ft. This mounting height and grouping reduces the number of floodlights, and the maintenance required, to a minimum and at the same time obviates any unnecessary obstruction along the sidings. The floodlights incorporate vertical and lateral pre-set focusing devices and are equipped with 1,000-watt metal filament lamps.

In addition to the floodlights, 23 Metrovick Gower two-way non-axial lanterns are mounted at 25 ft. on the floodlight columns for lighting in the immediate vicinity of the columns, and thereby add to the concentration of light along the sidings, which is in the order of 1.2 lumens per sq. ft.

British Railways Coronation Arrangements

British Railways will run a large number of relief trains during the period of the Coronation. On Coronation Day weekday services will operate in all Regions except the Southern, where Sunday services will operate, but there will be extra early morning and late night trains to enable provincial and suburban visitors to spend a long day in London.

There will be a wide range of day return tickets, and, for passengers living over 150 miles from London, the tickets will be available from many places after 9 p.m. on the eve of the Coronation. Excursions will also be run from many areas for Coronation Day and during the illuminations and decorations throughout the Coronation period; examples of excursion fares are: Aberdeen 86s., Glasgow and Edinburgh 70s., and Manchester 38s. 3d.

Staff & Labour Matters

Railway Traffic Control Staff

Under the provisions of paragraph 53, Appendix, Part V, of the Machinery of Negotiation for Railway Staff, dated February 26, 1935, a claim was submitted recently to the Chairman of the Railway Staff National Tribunal by the T.S.S.A. and N.U.R., for the standard weekly hours of traffic control office staffs to be reduced from 44 to 42.

The unions contended that control staff were closely allied to clerical staff, and before 1947 their hours had always been the same. The fact that control offices must be open continuously was no reason, they claimed, why the staff should not work a 42-hr. week as in telegraph and booking offices at large centres.

The case of the Railway Executive for a 44-hr. week for control staff was basically that the standard hours of such staff had always been the same as those of traffic supervisory staff and wages grade staff with whom the work of the control was most closely associated. Traffic controls worked 24 hr. a day seven days a week, and the tempo of work varied considerably less than in telegraph and booking offices. There was no scope for spreading the work over or leaving it to be done later.

The Chairman of the Tribunal, Sir John Forster, Q.C., awarded that a 42-hr. week should apply to traffic control staff. This decision reverses that of the Board of Conciliation, which in September, 1949, rejected the claim which was put forward for a 42-hr. week for control staff, but conceded it in the case of station masters, agents and supervisors controlling staff whose weekly working hours were fixed at 42.

Railway Workshop Staff: Women and Apprentices

Further discussions on the rates of pay of women and apprentices took place at a meeting of the Railway Shopmen's National Council on January 21. The employees' side of the Council pressed the employers' side to improve upon their offer, and the matter was left for further consideration.

Contracts & Tenders

The American Car & Foundry Company has received an order from the Gulf Mobile & Ohio Railroad for 400 fifty-ton, high-side gondola cars with fixed ends. The cars are similar to a previous order from this railway, 41 ft. 6 in. in length, with steel flooring and equipped with chilled steel iron wheels. Delivery is expected to begin in the third quarter of 1953.

The Director-General, India Store Department, is inviting tenders for the supply of locomotive component parts. Further details are given under Official Notices on page 195.

The Special Register Information Service of the Board of Trade states that the First Secretary (Commercial) of the British Embassy at Bangkok has notified a call for tenders issued by the State Railways of Thailand for 25 sets of level crossing barriers for railway crossings, clear width of the road 10 metres.

Tenders should reach the Stores Superintendent, Office of the Stores Superintendent, State Railways of Thailand, Bangkok, by 2 p.m. on Friday, May 8. A copy of the tender documents is available for inspection at the Board of Trade

Commercial Relations & Exports Department by representatives of United Kingdom manufacturers. A further copy is available on loan in order of written application. Reference CRE/3870/53 should be quoted.

The Special Register Information Service of the Board of Trade has reported that the First Secretary (Commercial) of the British Embassy at Bangkok has notified a call for tenders issued by the Railways Organisation of Thailand for:

439,900 fishbolts and nuts for 60 lb. f.b. rails
460,500 spring washers for the fish bolts
2,878,125 track spikes for securing 60 lb. rails
440,000 fishbolts and nuts for 50 lb. f.b. rails
1,400,000 spring washers for the fishbolts
1,500,000 track spikes for securing 50 lb. rails

Tenders should reach the Superintendent of Railway Stores, Office of the Superintendent of Railway Stores, Bangkok, by 2 p.m. on Friday, May 8. A copy of the tender documents is available for inspection at the Board of Trade by representatives of interested United Kingdom manufacturers until February 28, after which it will be available on loan in order of written application. Reference CRE/3733/53 should be quoted.

The Board of Trade, Commercial Relations & Export Department, has been notified by the United Kingdom Trade Commissioner at Delhi of a call for tenders issued by the Directorate General of Supplies & Disposals, Government of India, for the supply of:

7,666 universal couplings for hose pipes 2 in to I.R.S. drawing No. VB-321 alt. 5 and to I.R.S. specification No. R.3/51.

Permanent Way Institution Conversazione



At the conversazione of the Permanent Way Institution on January 31 (see February 6 issue). (Left) Mr. M. G. R. Smith, President, welcoming members and guests, and (right) Mr. F. Q. den Hollander, President, Netherlands Railways; Mr. A. S. Quartermaine, former Chief Engineer, Western Region; Mr. John Elliot, Chairman, Railway Executive; and Mrs. Elliot

Tenders should reach the office of the Director General of Supplies & Disposals, Shahjahan Road, New Delhi, by 10 a.m. on Tuesday, February 24.

A copy of the tender documents is available for inspection at the Board of Trade by representatives of interested United Kingdom manufacturers. A further copy is available on loan in order of written application. Reference CRE/3868/53 should be quoted.

The Board of Trade Commercial Relations & Exports Department, has been notified by the United Kingdom Trade Commissioner at Delhi of a call for tenders by the Directorate General of Supplies & Disposals, Government of India, for the supply of:

1,000 vacuum gauges, single, to I.R.S. drawing No. VB-210 alt. nil and to I.R.S. specification No. R.26/50.

Tenders should reach the Director General of Supplies and Disposals, Government of India, Shahjahan Road, New Delhi, by 10 a.m. on Wednesday March 4, 1953.

A copy of the tender documents is available for inspection at the Board of Trade by representatives of interested United Kingdom manufacturers. A further copy is available on loan in order of written application. Reference CRE/3866/53 should be quoted.

Notes and News

Vacancy for Public Relations Officer with Coras Iompair Eireann.—The Board of Coras Iompair Eireann invite applications for the post of public relations officer. For information regarding this appointment see advertisement page 48.

Crown Agents for the Colonies.—Applications are invited for the post of administrative assistant required by the Government of Nigeria for the Railway Department for one tour of 18 to 24 months, with prospect of pensionable employment. See Official Notices on page 195.

Coras Iompair Eireann: Assistant Mechanical Engineer Required.—The Board invite applications for the appointment of an assistant mechanical engineer. Candidates must have had experience in a responsible position including workshop practice and management. For full particulars of this appointment see advertisement page 48.

Presentations to Retiring Engineer.—A luncheon was held at the Victoria Hotel, Wolverhampton, on January 16, to mark the retirement of Mr. R. F. Wilson, District Engineer, Western Region, Wolverhampton. Presentations were made to Mr. Wilson by Mr. Gordon Thomas, Assistant District Engineer, Wolverhampton, and the function was attended by Mr. K. W. C. Grand, Chief Regional Officer, Western Region, Mr. M. G. R. Smith, Civil Engineer, and principal officers of the civil engineer's department.

Rhodesia Railways Trust: Dividend Increased.—Presiding at the annual general meeting of the Rhodesia Railways Trust on February 5, the Chairman, Sir Dougal O. Malcolm, announced recommendation of a dividend of 10 per cent, less tax, for the year ended September 30, 1952, against 9 per cent for the previous year. This, he said, was caused partly by a rise in gross income—£252,482 for the year under re-

view compared with £231,133 for the preceding year; after payment of dividend the balance carried forward would be increased by £12,103 to £101,984. It should be possible to maintain the same rate of dividend for this current year. The report and accounts were adopted.

C. C. Wakefield & Co. Ltd.—The board of C. C. Wakefield & Co. Ltd. has issued the following statement: "Recent references and suggestions in the press of possible negotiations between this company and a petroleum company are entirely without foundation."

Institution of Locomotive Engineers.—At a special general meeting of the Institution of Locomotive Engineers to be held at the Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, at 5.30 p.m. on March 5, the Sir Seymour Biscoe Fritton Lecture will be delivered by Mr. F. Q. den Hollander, President, Committee of Management, Netherlands Railway, on "Efficiency in Locomotives."

Woodhead Tunnel Progress.—Construction of the new tunnel at Woodhead is expected to be completed in the summer. The enlargement of the 12 ft. sq. pilot tunnel to a maximum breadth of 31 ft. and height of 24 ft. is expected to be finished by the end of March. Work will then begin on laying six miles of track and extra high-tension 33 k.v. cable and signalling installations and on the overhead line equipment.

East Coast Floods: Messages of Sympathy.—British Railways announce that messages of sympathy in connection with the East Coast floods have been received from the Belgian, French, German, Italian, and Netherlands railway administrations. The German Federal Railways also offered to place ambulance coaches at the disposal of British Railways if required.

Trials of South African Railways Class "25 NC" Locomotives.—The first of the class "25 NC" 4-8-4 locomotives being built by Henschel & Sohn for the South African Railways underwent trials recently at Henschel Works, Cassel. A group of those who witnessed the trials is repro-

duced below. From left to right they are:—

Dr. Ewald, Henschel & Sohn; Messrs. L. Paton-Ash, Henschel & Sohn; W. Thomas, South African Railways; W. Jaeger, Henschel & Sohn; G. J. A. Lindenberg, Advisory Engineer, South African Railways; P. H. Bangert, Henschel & Sohn; J. H. Kirkpatrick, South African Railways; A. Hood, North British Locomotive Co. Ltd.; W. Hitzler, Henschel & Sohn; A. Macdonald, North British Locomotive Co. Ltd.; and H. Carl, Henschel & Sohn

Rail Traction Supplies Limited.—Rail Traction Supplies Limited has been formed with offices at 61, Catherine Place, London, S.W.1, to sell locomotive and railway accessories. Mr. H. Duncan Thoms, who, until recently, was with the North British Locomotive Co. Ltd. for more than eight years, has been appointed London manager of the new company.

Permanent Way Institution, London Section, Presidential Address.—On February 19, at the Railway Executive Headquarters, 222, Marylebone Road, N.W.1, at 6.30 p.m., the new President of the Permanent Way Institution, Mr. M. G. R. Smith, will give an address, illustrated with lantern slides, on "Surface Water and Clay."

New Steel Production Record.—Steel production in January reached a new record level with a weekly average output of 346,300 tons, compared with the previous record rate of 345,200 tons a week last November, and with 293,000 tons in January, 1952. The British Iron & Steel Federation points out that production in January of last year was affected by the New Year holidays. Pig iron production last month also increased to a record weekly rate of 213,900 tons, compared with the previous best rate of 208,600 tons a week last September.

The Quaker Girl.—On February 5 the London Midland Region (London) Amateur Musical Society presented the musical play, "The Quaker Girl," at the Scala Theatre, London, W.1. The principal characters were excellently portrayed by Miss Joyce Tattum as the Princess Mathilde, and Mr. William Taylor as



South African Railways class "25 NC" locomotive built by Henschel & Sohn

OFFICIAL NOTICES

The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

UNION OF SOUTH AFRICA. Engineer offers services and office in Johannesburg or elsewhere in the Union to a British firm at present not represented there. Complete and personal knowledge of whole territory in either heavy or medium engineering. All replies will be forwarded in strict confidence to the Advertiser.—Box 736, *Railway Gazette*, 33, Tothill Street, London, S.W.1.

ASSISTANT TRAFFIC MANAGER required by a large industrial firm in the Midlands. Experience of rates and charges, wagon control, etc., essential. Knowledge also required of shipping and road transport. Superannuation scheme in operation. Applicants should be under 45 years of age. Applications stating age, details of previous experience, and salary required to:—Box 727, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth. 8*1/2* in. by 5*1/2* in. 82 pp. Diagrams. 5*1/2*. By post 5*1/2*. 3*1/2*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Captain Charteris, while Mr. Dennis Millership was a convincing Tony Chute, An excellent performance was given by Miss Pat Smith as Phoebe, and Miss Rita Smith gave a good interpretation of Madame Blum. The chorus work was of a high standard, and Mr. Charles Brill, the Musical Director, is to be congratulated on the rendering by the orchestra of Mr. Lionel Monckton's charming music.

Permanent Way Institution, London Section: Summer Convention.—It has been arranged to hold the Summer Convention of the Permanent Way Institution, London Section, this year at Cardiff, from May 16 to May 21. It is suggested that early application should be made to the corresponding secretary, Mr. J. A. R. Turner, by all members wishing to have particulars of the principal hotels and guest houses in Cardiff.

British Railways Heavy Iron Ore Traffic.—British Railways carried the heaviest tonnage of iron ore for over five months (323,400 tons) during the week ended January 31; in the same week, 225,357 tons of iron and steel from the principal steel works were conveyed. During the week ended 6 a.m. on February 9, 3,305,430 tons of deep-mine and opencast coal were cleared. The weekend figure was 400,020 tons.

N.E. Region Football Traffic.—The North-Eastern Region scheduled 14 special trains to run from Sunderland to Burnley for the Burnley v. Sunderland F.A. Cup match on January 31. Ten of the trains carried buffet cars, one a dining car, and three had light refreshment services. On the same date five football excursions were run from Huddersfield to Blackpool, and two specials ran from Newcastle to Hull for the Hull City tie.

Passenger Charges Scheme 1953: Legality Challenged.—The Transport Tribunal will sit next Monday for the hearing of so much of any objection lodged with respect to the Passenger Charges Scheme 1953 as relates to the jurisdiction of the Tribunal to hear the Scheme. This is understood to refer mainly to the London County Council objection under Section 79(1) of the Transport Act, 1947; the Section precludes an application for alteration of a charges

CROWN AGENTS FOR THE COLONIES

ADMINISTRATIVE ASSISTANT required by the Government of Nigeria for the Railway Department for one tour of 18 to 24 months with prospect of pensionable employment. Salary according to experience in scale £750 rising to £1,175 a year (including expatriation pay). Outfit allowance £60. Free passages for officer and wife and assistance towards cost of children's passages or their maintenance in this country. Liberal leave on full salary. Candidates of good education should have had experience in railway work including goods and passenger station work and accounts, rates and charges, operating and administrative statistics, railway and commercial law, the Railway and Road Transport problem and legislation, modern office methods and equipment. Apply at once by letter, stating age, full names in block letters and full particulars of qualifications and experience and mentioning this paper to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting our letter M.2863.E. The Crown Agents cannot undertake to acknowledge all applications and will communicate only with applicants selected for further consideration.

REQUIRED by the Central Railway of Peru two Locomotive Assistants preferably single and between 26/30. Qualifications: Full apprenticeship with British Railways or Locomotive Builders and experience in one or more of the following: Railway Machine Tool Operation, Welding, Boiler work, Locomotive Running or Drawing Office. Apply SECRETARY, PERUVIAN CORPORATION LTD., 144, Leadenhall Street, London, E.C.3.

scheme less than twelve months after the coming into force of the scheme or if the Tribunal considers that the scheme relates to a matter considered by the Tribunal within a year before the application was made. The Passenger Charges Scheme 1953 was submitted by the B.T.C. as a new scheme, to which Section 79(1) would not apply. If the Scheme is considered a legal application to the Tribunal, hearing will begin on March 9, as planned.

C.N.R. Line Blocked.—The Canadian National Railways main line to Vancouver is blocked by a large earthslide 16 miles east of Lytton in Fraser Canyon. A 700 ft. fissure opened in the China Bar Mountain and masses of earth were falling for three days. Trains have been rerouted over C.P.R. lines. The earthslides were caused by exceptionally mild weather melting the snows.

London Chamber of Commerce Protest on Fares.—The London Chamber of Commerce has written to the Minister of Transport, Mr. Alan Lennox-Boyd, supporting representations made by some London M.P.s that an independent inquiry be held into the administration of London Transport, and expressing the view that, with greater efficiency, large savings could be effected and better service given. The letter states that the Chamber is much disturbed at the continual increase in passenger fares in London, where a high proportion of the workers is obliged to make long journeys to work. Already the cost of these journeys is a serious item in weekly budgets.

Fire Extinguisher Demonstration.—A demonstration of various types of fire fighting equipment was given on February 5 at the Essex Works, Feltham, of the National Fire Protection Co. Ltd. The equipment, which was demonstrated under the control of Mr. G. L. Evans, Sales Manager, included the Essex No. 3 and No. 5 (S.D.V.) extinguishers using methyl bromide as the media, the Sheen carbon tetra-chloride, Essex 7-lb. carbon dioxide, and Essex 20-lb. dry powder extinguishers. Demonstrations also included a built-in, remote control system for oil storage tanks, and an automatic extinguishing system for transformers. The transformer contained 40 gal. of oil heated to 70° C. with an

THE DIRECTOR-GENERAL, India Store Department, 32/44 Edgware Road, London, W.2, invites tenders for the supply of 55 Locomotive Boilers complete, 50 sets of Boiler Plates and 120 Engine sets of Main Bar Frame Slabs for "W.G." Broad Gauge Type Locomotives. Forms of tender which may be purchased from this office upon payment of a fee of 10s. Reference HN. 3556/52 (1) must be quoted in all applications.

THE DIRECTOR-GENERAL, India Store Department, 32/44 Edgware Road, London, W.2, invites tenders for the supply of the following locomotive component parts in Engine sets for "W.G." Broad Gauge Type Locomotives:—40 sets of Motion; 30 sets of coupling and connecting rods; 64 sets of cylinders; 30 sets of wheel assemblies; steel castings of various quantities. Forms of tender which may be purchased from this office upon payment of a fee of 10s. Reference HN. 3556/52 (2) must be quoted in all applications.

N.E.R. HISTORY.—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages. 10s. 6d.—*The Railway Gazette*, 33, Tothill Street, London, S.W.1.

BOUNDED VOLUMES.—We can arrange for readers' names to be bound in full cloth at a charge of 25s. per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tothill Press Limited, 33, Tothill Street, London, S.W.1.

additional 10 gal. on the floor. The fire is detected by thermal link set at 155° F. and methyl bromide discharged through two ring mains above the transformer and another 18 in. above floor level.

Replanning Hammersmith Station, London Transport Executive.—Hammersmith Station, on the District and Piccadilly lines of London Transport, is to be replanned from February 15 to ease peak hour travel. Congestion is caused by travellers using the same barriers for leaving and entering. The ticket hall will be divided into two sections by barriers. The east side of the entrance will be for passengers joining trains, and the west hall will be for those departing. A covered way and centre footbridge with twin stairs will give access to the platforms. The new way-in arrangements will bring passengers to the centre of the platforms from the bridge and should result in more even distribution and loading of trains.

Loss of M.V. "Princess Victoria."—Memorial services for those who lost their lives in the sinking of British Railways m.v. *Princess Victoria* on January 31 were held in Northern Ireland last Sunday. Lord Wakehurst, Governor of Northern Ireland, members of the Northern Ireland Cabinet, and Mr. Alan Lennox-Boyd, Minister of Transport, were present at a service in St. Anne's (Church of Ireland) Cathedral, Belfast. The Bishop of Connor took part in the service. Lord Brookeborough, Prime Minister of Northern Ireland, attended a service in the Assembly Hall, Belfast; the Moderator of the General Assembly of the Presbyterian Church in Ireland took part. At Larne a service was held at the railway station near the *Princess Victoria*'s berth. Wreaths from the people of Larne and Stranraer were cast into the sea. Services also were held at Stranraer and Donaghadee.

Financing Purchase of Transport Units.—As a result of negotiations by the Road Haulage Association, arrangements have now been made for financial facilities to be made available to purchasers of transport units once the Transport Bill has been passed. The Association and the United Dominions Trust Limited will set up a finance company for the special purpose of providing such facilities. Subject to the necessary Government

consent, advances for assets other than buildings will normally be repayable over a period of three to five years; advances specifically for buildings will be repayable over a longer period. The Road Haulage Association understands from inquiries that advances will also be available through other normal channels.

Forthcoming Meetings

February 14 (Sat).—Permanent Way Institution, East Anglia Section, at the Railwaymen's Social Club, Cambridge, at 2.15 p.m. Paper on "Use and Maintenance of Permanent Way Tools," by Mr. J. H. King.

February 17 (Tue).—Institute of Transport, South-West Lancashire Group, at the Town Hall, Leigh, at 7 p.m. Paper on "The Management and Organisation of Passenger Transport in Relation to the Public," Paper by Mr. H. Jones.

February 18 (Wed).—British Railways Southern Region Lecture & Debating Society, in the Chapter House, St. Thomas' Street, S.E.1, at 5.45 p.m. for 6 p.m. Members' Night. Papers on "Management and Staff," by Mr. E. J. Pond; "Two Interesting South Wales Inclines," by Mr. John Drayton; "Through Wagon, Manchester to Milan," by Mr. C. E. Wild.

February 18 (Wed).—Institution of Locomotive Engineers at the Institution of Mechanical Engineers, Storey's Gate, S.W.1, at 5.30 p.m. Paper on "Operating Experiences with two Gas Turbine Locomotives," by Mr. A. W. J. Dymond.

February 18 (Wed).—Institution of Railway Signal Engineers at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2, at 6 p.m. Paper on "Power Signalling Equipment, Design and Performance Related to Installation and Maintenance," by Mr. L. J. M. Knott.

February 18 (Wed).—Diesel Engine Users Association at Caxton Hall, Westminster, S.W.1, at 2.30 p.m. Informal discussion on "Operating Problems."

February 18 (Wed).—Institute of Transport, Beds., Cambs. & Hunts. Section, at Sussex House, Cambridge, at 6.30 p.m. Paper on "Transport operation in rural areas," by Mr. E. A. Rainson.

February 19 (Thu).—Locomotive & Carriage Institution of Great Britain & Eire, in the Board Room, Railway Clearing House, 163, Eversholt Street, London, N.W.1, at 7 p.m. Paper on "Background to Summer Passenger Timetable," by Mr. C. D. Hackett.

February 19 (Thu).—Institute of Transport, Essex Group, at the Shire Hall, Chelmsford, at 7 p.m. Paper on "Is there any justification for the diesel railcar in present-day circumstances in Great Britain?" by Mr. B. Y. Williams.

February 19 (Thu).—Institute of Transport, Northern Ireland Section, at 21, Linenhall Street, Belfast, at 6 p.m. Paper on "The Forklift and Pallet Method of Material Handling," by Mr. E. G. Whitaker.

February 20 (Fri).—Institute of Transport, East Midlands Section, at the Staff Dining College, Derby, at 6.30 p.m. Paper on "Operating experiences with Two Gas Turbine Locomotives," by Mr. B. W. J. Dymond.

February 21 (Sat).—Railway Students' Association. Visit to South Lambeth

Goods Depot, Western Region, at 9.30 a.m.

February 21 (Sat).—Institute of Transport, Southern Section, at the Royal Pier Pavilion, Southampton, at 12.30 p.m. for 1 p.m. Annual luncheon and visit of President.

February 21 (Sat).—Stephenson Locomotive Society, North Eastern area, at the Y.M.C.A., Albion Place, Leeds, at 2.30 p.m. Paper on "Some aspects of locomotive design," by Mr. C. Beech.

February 21 (Sat).—Stephenson Locomotive Society, Scottish area, at the Tudor House, Falkirk, at 3 p.m. Annual general meeting and dinner.

February 24 (Tue).—Institute of Transport, at the Connaught Rooms, Great Queen Street, W.C.2, at 12.30 p.m. for 1 p.m. Informal luncheon.

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February 25 (Wed).—Institute of Traffic Administration, London Centre, at the Kingsley Hotel, Bloomsbury Way, London, W.C.2, at 7.15 p.m. Debate on denationalisation of long-distance road transport.

February 25 (Wed).—Railway Students' Association, at the London School of Economics & Political Science, Houghton Street, Aldwych, W.C.2, at 6.15 p.m. Paper on "International Transport of Refrigerated Goods by Rail," by Mr. W. Purdom, General Agent for Great Britain, Interfrigo Company.

February 26 (Wed).—British Railways Southern Region, Lecture & Debating Society. Visit to the Post Office Railway, Mount Pleasant, London, E.C.1, at 6 p.m.

Railway Stock Market

Stock markets have maintained a cheerful undertone with industrial shares again active, though buying was selective and centred largely on shares which offer higher dividend possibilities, or whose market prices seem much below their value based on assets. British Funds were fairly steady, though news of the forthcoming £4,500,000 issue by the Auckland Harbour Bridge Authority, and reports that further issues are planned shortly in the gilt-edged market, were factors which induced a waiting attitude.

The City is still assuming that the Budget will bring reduction in taxation. Nevertheless, it is realised that in view of the increased expenditure which arises from the repair of flood damage on the East Coast, the Government will have to find ways and means of making big cuts in expenditure elsewhere, if the Budget is to bring more than a very small reduction in taxation. In fact, in the City there are doubts whether a reduction in the rate of income tax will be possible at this stage. On the other hand, it is assumed in many quarters that industry will be given incentives in the form of tax concessions in respect of profits earned in export markets and overseas. If these hopes were borne out, the concessions could presumably also apply to the profits of British companies owning railways operating abroad.

White Pass & Yukon no par value shares have again been prominent with a further rise to \$23 $\frac{1}{2}$, while the convertible debentures were active around £85. There has been no revival of market rumours of a possible take-over bid, but the big scope for expansion and mining developments in the area served by the railway are factors which continue to draw strong speculative attention to the shares.

In contrast, Canadian Pacifics have been easier at \$54 $\frac{1}{2}$ at the time of going to press, but the 4 per cent preference remained steady at £64 and the 4 per cent debentures at £78 $\frac{1}{2}$.

Antofagasta preference again encountered some selling and came back to 48 $\frac{1}{2}$ with the ordinary stock at 10. Manila Railway stocks were also sold moderately. The "A" debentures were 79 $\frac{1}{2}$ and the preference shares 8s. 7 $\frac{1}{2}$.

United of Havana were marked lower on the fears that early news of takeover developments now seems unlikely. The Cuban sugar surplus has led to revived talk in the market that Cuba might plan to take over the railway by offering as compensation a percentage of her sugar sales

over a period of years; but there is no official basis for suggestions of this kind. Any takeover developments made to the directors would be immediately transmitted to stockholders, and no plan would be recommended by them unless it were fair and reasonable to stockholders in the light of the reorganisation of the capital recently effected. Compared with a month ago, United of Havana 4 per cent "A" stock has receded further to 56 at the time of writing, the 4 per cent "B" to 52, the second income stock to 17 and the consolidated stock to 21.

Mexican Central "A" debentures were 67. Taltal shares 15s., Nitrate Rails 21s. and San Paulo 6s. 8d. units 6s. 10 $\frac{1}{2}$ d. Business at 6 $\frac{1}{2}$ was recorded in Brazil Railway gold bonds, and at 57 in Dorada Railway ordinary stock.

Barsi Light Railway stock showed business at 117. Nyasaland Railways 3 $\frac{1}{2}$ per cent debentures were dealt in at 71 $\frac{1}{2}$.

Among road transport shares, Southdown were 29s. 9d., West Riding 33s. 6d., and Lancashire Transport 42s. B.E.T. deferred stock has been steady at £465 at the time of going to press.

The shares of engineering and kindred companies became more active. Buyers have been attracted again by the prospect of better steel supplies and also by the general recognition that current market prices of many shares are moderate in relation to their value based on assets. It is realised that the main point determining the price of a share is the dividend paid; but the view seems to be growing that markets have not given sufficient attention to the value of assets. There is a prevailing assumption that many companies will follow a more liberal dividend policy this year if profits permit. These factors and also the continued hope that taxation may be reduced explain cheerfulness in stock markets.

Vickers have been good again, up to 47s. 6d., while Cammell Laird 5s. shares were 11s. 10 $\frac{1}{2}$ d., Babcock & Wilcox 71s. 6d. and John Brown 44s. Guest Keen have risen further to 53s. 4 $\frac{1}{2}$ d.

Beyer Peacock held firm at 35s., Central Wagons advanced to 61s. 9d., but Charles Roberts 5s. shares eased to 19s. 7 $\frac{1}{2}$ d. the capital return being below some expectations. Vulcan Foundry were firm at 23s., Gloucester Wagon 10s. shares 12s., North British Locomotive 14s. and Wagon Repairs 5s. shares 12s. 6d. T. W. Ward were 74s. and Ruston & Hornsby 41s. Birmingham Carriage kept at 34s. 10 $\frac{1}{2}$ d. and Hurst Nelson at 43s. 6d.